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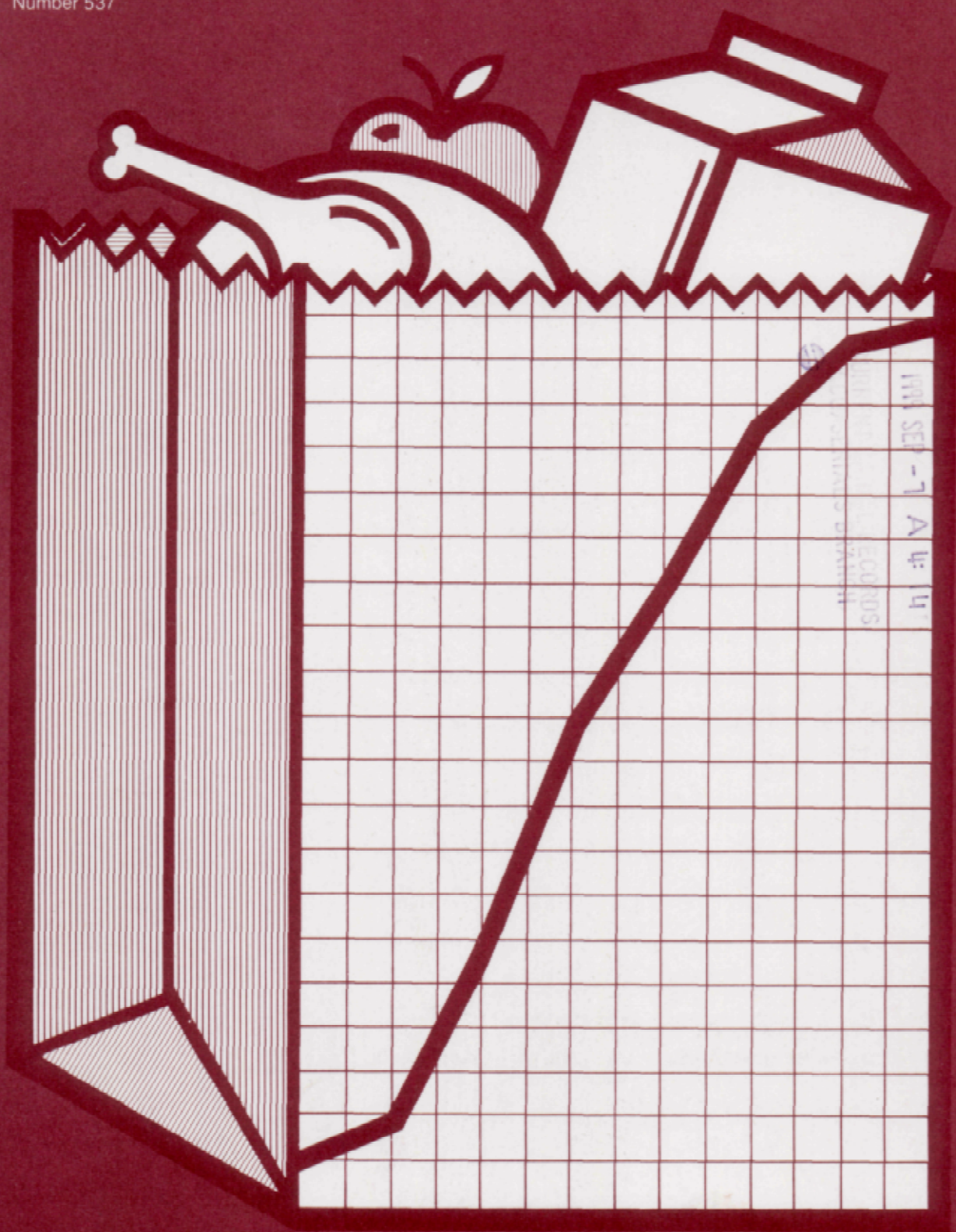


United States  
Department of  
Agriculture

Economic  
Research  
Service

Agricultural  
Economic Report  
Number 537

# Food Cost Review, 1984



#### ABSTRACT

Retail grocery food prices increased 3.8 percent in 1984, compared with a 2.1-percent rise in 1983. The larger rise reflected tighter supplies of some farm products, higher farm prices, and a bigger rise in the farm to retail price spread. Food price increases for both years were much weaker than in recent years, and the share of income going for food continued downward. The farm value of USDA's market basket of foods rose 5.3 percent in 1984, following a 2.2-percent drop a year earlier. The farm-value share of a dollar spent at foodstores rose to 34 percent from 33 percent. The farm to retail price spread of USDA's market basket of foods rose by 3.2 percent. Food industry marketing costs increased at a moderate rate, largely because of a relatively small rise in wages and salaries of workers.

Keywords: Retail food prices, farm to retail price spread, farm value, food marketing costs, food spending, profit productivity.

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## SUMMARY

Large commodity supplies and a moderate inflation rate continued to temper increases in food prices last year. Retail food prices, as measured by the Consumer Price Index (CPI), rose 3.8 percent, nearly the same as in 1982 but above the 1983 increase of 2.1 percent. The 1983 increase was the smallest since 1967. Food prices in 1984 rose more slowly at supermarkets and other grocery stores (3.7 percent) than at eating places (4.2 percent), continuing a trend of recent years.

The retail price rise was larger in 1984 for several reasons.

- o Farmers' prices for food commodities rose, following a drop in 1983.
- o Charges for processing, distributing, and retailing food rose more than in 1983.
- o A substantial rise in personal disposable income helped increase consumer demand for food.
- o Freezing weather sharply reduced supplies of winter vegetables, damaged the Florida and Texas citrus crops, and disrupted livestock marketings in the Midwest.
- o Low returns caused poultry and egg producers to slow production which in turn boosted chicken and egg prices early in the year.

Prices of most foods at the supermarket averaged higher in 1984. Here's a wrapup of price changes at the supermarket last year.

- o Record large supplies held down red meat prices for the second consecutive year. Beef supplies were bolstered by continued liquidation of cattle herds. Those large supplies held retail beef and veal price rises to only 1.2 percent above 1983. Despite slightly smaller pork supplies in 1984, retail prices averaged 1.3 percent lower for the year.
- o Poultry prices averaged 10.6 percent higher last year, partly because of a slow increase in broiler production during the first half of the year.
- o Egg prices averaged 11.7 percent higher, mainly because egg producers cut production early in the year in response to higher feed costs and low returns.
- o Retail prices of milk and other dairy products rose only 1.3 percent in 1984, about the same as in 1983.
- o Retail prices of most foods made from crops were higher in 1984, partly because of a sharp jump in grain and soybean prices when 1983's summer drought severely damaged crops. Retail prices of fats and oils, such as vegetable shortening and margarine, averaged 9.5 percent higher.
- o Cereals and baked goods cost 4.4 percent more than in 1983, mostly because of increases in manufacturing and distributing costs, which account for most of their price.



- o Fresh fruit prices rose an average of 11.1 percent, mainly because of much smaller supplies, particularly of oranges.
- o Fresh vegetable prices rose sharply in the first quarter of 1984, but they dropped later in the year. Fresh vegetable prices for all of 1984 averaged 10.9 percent higher than in 1983, mainly reflecting higher potato prices--about 25 percent higher because of a small 1983 fall potato crop.

The farm value (what farmers receive) of USDA's "market basket" of foods rose by 5.3 percent in 1984, the first time since 1978 that the farm value increase exceeded the retail food price increase. However, because of depressed farm prices over several years, the 1984 farm value of foods was only 7 percent above the 1980 value; in contrast, retail food prices had risen 17 percent over the same time.

The farm value averaged 34 percent of the retail cost for a market basket of foods, up from 33 percent for 1983, but down from 36 percent in 1981 and 37 percent in 1980. The farm share of the food dollar has declined in recent years because abundant food supplies held down farm prices while retail prices rose faster because of rising processing and distributing charges.

The farm to retail price spread rose 3.2 percent in 1984, trailing slightly the overall rate of inflation for the economy of 3.7 percent as measured by the gross national product implicit price deflator. This similarity arises because food industry charges for handling, processing, and retailing food commodities represent an accumulation of the costs of inputs purchased from other industries in the economy. Moreover, increases in hourly earnings of food industry workers were not too different from average wage increases in other industries.

During 1984, consumers spent \$332 billion for foods produced on U.S. farms, about 5.5 percent more than in 1983. This amount includes purchases of farm foods in foodstores, roughly two-thirds of the total, and at away-from-home eating places. About 27 percent of last year's food spending went back to farmers, who received about \$89 billion. This share is a weighted average of the 34-percent farm share of food at home and the much lower 15-percent share of away-from-home food spending.

The remaining \$243 billion--the marketing bill--went to the food industry for handling, processing, and retailing foodstuffs after they left the farm. The marketing bill was up by \$12.5 billion in 1984 and thus accounted for nearly 75 percent of the year's increase in consumer expenditures. About \$5.5 billion of the \$12.5 billion marketing bill increase can be traced to rising labor costs. Packaging materials and food containers added another \$2 billion. Food industry profits also climbed in 1984.

Although food costs are rising, they are not increasing as much as total consumer income. A declining proportion of income spent for food, leaving more money for other things, is an often-used indicator of a rising standard of living. In 1984, food spending (for domestically produced as well as imported foods and fish) was 15.1 percent of total personal disposable income, down from 15.6 percent in 1983 and 16.8 percent 10 years ago. The share declined very little during the seventies because of high food price inflation. Last year, moderate inflation coupled with a large boost in disposable income reduced the share of income spent on food more than in most years over the past decade.

# Food Cost Review, 1984

## INTRODUCTION

Consumers, farmers, and legislators want to know what causes food prices to change. They are also interested in the difference between what farmers get for the food they sell and how much consumers pay for that food, commonly referred to as the farm to retail price spread. To answer these concerns, Congress has directed the U.S. Department of Agriculture (USDA) to measure price spreads for foods originating on farms.

This report presents USDA's findings for 1984, including answers to the following questions:

How much did food prices rise in 1984? Why?

How much of the retail food price does the farm value represent?

How did farm to retail price spreads change last year, both for a market basket of foods and for representative foods such as Choice beef or bread?

How have recent developments affected food industry costs, profit margins, and productivity?

Finally, how much did Americans spend for farm-produced foods and how were these dollars divided among costs of producing and marketing food?

## RETAIL FOOD PRICE DEVELOPMENTS

Food prices rose moderately in 1984 for the third consecutive year. Retail food prices averaged 3.8 percent higher in 1984 than in 1983 (fig. 1). That was much above the 1983 rise of 2.1 percent, but about equal to the 1982 rise of 4 percent. Moreover, it was the second smallest year-to-year change in food prices since 1976.

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\*This report was prepared by Denis Dunham of the National Economics Division, Economic Research Service (ERS), U.S. Department of Agriculture. Floyd Lasley, Ed Easterling, James Miller, Lawrence Duewer, and Joan Pearrow provided cost data for individual commodities, David Harvey provided marketing bill data, and T. Q. Hutchinson provided transportation information. Appreciation is extended to Harry Harp for his helpful ideas and to Zahra Scott for producing the report.

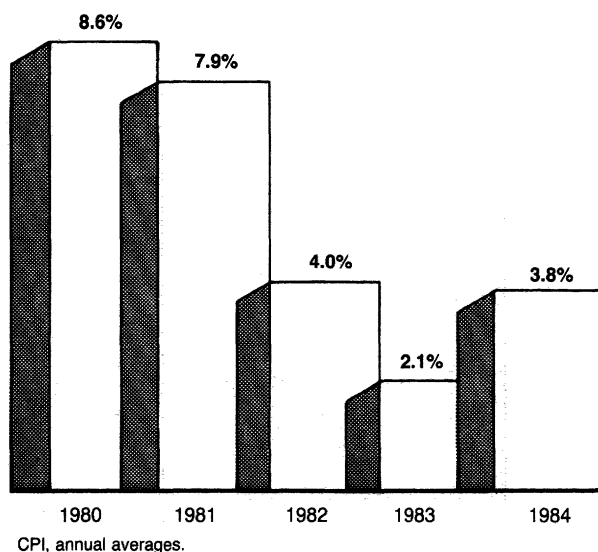
The statistics just quoted came from the Consumer Price Index (CPI) for urban consumers, published by the U.S. Department of Labor's Bureau of Labor Statistics (BLS). The CPI is the most widely accepted measure of changes in retail food prices.

The 3.8-percent retail price rise for 1984 included both prices at foodstores and those paid at restaurants and other eating places. Prices of food at eating places rose by more than those at foodstores: 4.2 percent as opposed to 3.7 percent. Restaurant meal prices increased about the same amount as the year before, whereas food prices in grocery stores rose much more. In 1983, prices in grocery stores rose only 1.1 percent, the smallest year-to-year change in 16 years (table 1).

Abundant supplies of farm products and moderate marketing cost inflation held back the pace of 1984 food prices. Meat supplies increased because of larger beef and broiler chicken production. Crop output was up sharply because of expanded acreage and increased yields. Meanwhile, the cost of food processing, distributing, and retailing continued to rise at a moderate rate limiting the rise in the farm to retail price spread.

Figure 1

**Food Prices Continue Moderate Rise**



**Why Foodstore Prices Increased**

To better understand why grocery store food prices increased last year, we consider separately what happened to the prices of foods that American farmers produce and what happened to prices of nonfarm foods such as nonalcoholic beverages, fishery products, and imported foods. The first category accounts for over four-fifths of consumer food purchases from foodstores. The second accounts for the rest.

The 3.7-percent rise in foodstore prices was the combined result of a 3.9-percent increase in prices of domestically produced foods and a smaller rise of 2.6 percent in prices of nonfarm foods.

Table 1--Annual changes in consumer price indexes for food and all items

Year	All food	Total	Food at home		Food away from home	CPI-U all items
			Domestically produced farm food	Nonfarm food <u>1/</u>		
<u>Percent change</u>						
1960	1.0	0.9	0.5	--	2.6	1.6
1961	1.3	.9	.3	--	2.2	1.0
1962	.9	.7	1.0	--	2.6	1.1
1963	1.4	1.3	-.2	--	2.2	1.2
1964	1.3	1.1	.2	--	1.8	1.3
1965	2.2	2.5	2.8	--	2.2	1.7
1966	5.0	5.0	5.3	--	4.6	2.9
1967	.9	-.3	-1.0	--	5.2	2.9
1968	3.6	3.2	3.6	0	5.2	4.2
1969	5.1	4.8	5.3	.9	6.1	5.4
1970	5.5	5.1	4.2	12.7	7.4	5.9
1971	3.0	2.4	1.8	7.2	5.2	4.3
1972	4.3	4.5	4.8	1.7	4.0	3.3
1973	14.5	16.3	17.3	8.9	7.9	6.2
1974	14.4	14.9	13.8	23.8	12.7	11.0
1975	8.5	8.3	7.2	16.7	9.3	9.1
1976	3.1	2.1	1.0	9.8	6.8	5.8
1977	6.3	6.0	2.2	31.3	7.6	6.5
1978	10.0	10.5	11.3	7.4	9.0	7.7
1979	10.9	10.8	11.7	6.6	11.2	11.3
1980	8.6	8.0	7.2	11.7	9.9	13.5
1981	7.9	7.3	7.7	5.8	9.0	10.4
1982	4.0	3.4	3.6	2.7	5.3	6.1
1983	2.1	1.1	.9	1.9	4.4	3.2
1984	3.8	3.7	3.9	2.6	4.2	4.3

-- = Not available

1/ Includes soft drinks, coffee, and other nonalcoholic beverages, fish and seafoods, candy and chewing gum, imported sugar, seasonings, and bananas. Data were estimated for 1968 through 1978 based upon the relative importance of these foods in the total food-at-home index and the price changes for domestic food and food at home.



To study more closely the reasons for changes in prices of domestically produced foods, USDA separates these prices into the farm value or payment received by farmers for these foods and the farm to retail price spread. This price spread represents the charges for assembling foods from farms, processing them, and distributing them to consumers. In 1984, the farm value of foods averaged 5.3 percent higher than in 1983, the first year since 1978 that the farm value increase exceeded the retail price increase. The farm to retail price spread increased 3.2 percent.

The increase in the farm to retail price spread was the principal cause of the foodstore price increase because marketing charges are twice as large as the farm value. The farm to retail price spread accounted for 1.7 percentage points of the 3.7-percent rise (fig. 2 and table 2). The higher farm value contributed 1.5 percentage points to the price increase. The rise in prices of nonfarm foods was responsible for the remaining 0.5 percentage point.

In 9 of the past 10 years, a rise in the farm to retail price spread contributed more to the rise in food prices than did changes in either the farm value or in the price of nonfarm foods.

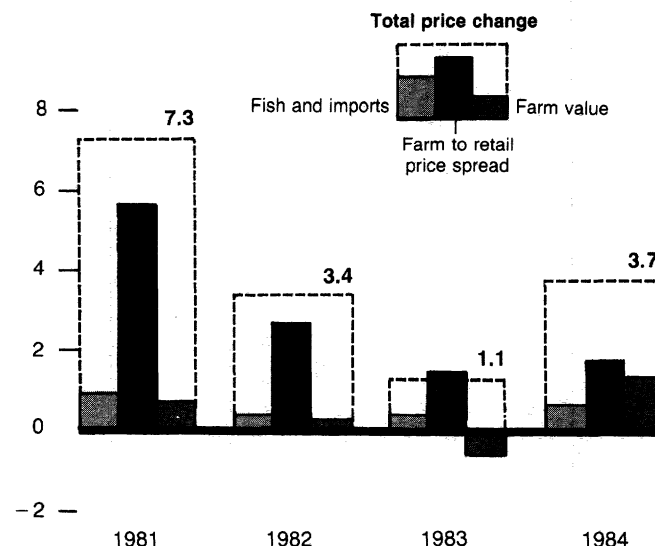
#### Prices Rose Sharply in First Quarter

Foodstore prices jumped 3.5 percent between the fourth quarter of 1983 and the first quarter of 1984, accounting for much of the total yearly rise in prices. Increases primarily reflected weather-related reductions in fruit, vegetable, and meat supplies. Retail fruit and vegetable prices were boosted by a severe freeze in Florida and Texas that damaged many fresh vegetable crops and citrus groves. Similar weather in the Midwest slowed weight gains of cattle, causing a rise in beef prices in the first quarter. Poultry and egg prices rose sharply because producers cut production in response to higher feed costs and low returns.

Figure 2

#### ***Farm to Retail Price Spread Boosts Food Prices the Most***

Percent



Total price change from food-at-home index, Consumer Price Index. Bars represent percentage point contribution of each factor to total price change.

Foodstore prices were nearly stable from the second to the fourth quarter of 1984. Lower retail prices for fresh vegetables, poultry, and eggs contributed to the stable level of the CPI for food at home. Retail meat prices changed little during the year. The overall level of food prices in the fourth quarter averaged 3.8 percent above a year earlier, mainly reflecting the rise in prices in the first quarter of 1984.

Prices of many foods changed little in 1984 while some others rose much more than in 1983. Red meat prices, the largest expenditure category in the CPI, averaged only 0.3 percent higher in 1984 than in 1983. Large meat supplies led to the 1984 stability in meat prices. Beef production rose about 1.5 percent mainly because of a larger cow slaughter. Pork production remained large because producers were reducing their breeding herds, and imports of pork products were about one-third larger in 1984. Pork prices consequently averaged 1.3 percent lower than in 1983. Beef prices rose 1.2 percent, reflecting stronger consumer demand.

Table 2--Contribution of food-price components to price increases at foodstores

Year	Change in foodstore prices due to--			Added up to a retail price increase of--
	Farm value of food	Farm to retail price spread	Nonfarm foods	
	<u>Percentage points</u>			<u>Percent</u>
1968	1.7	1.5	0	3.2
1969	3.0	1.7	.1	4.8
1970	-.2	4.0	1.3	5.1
1971	.1	1.5	.8	2.4
1972	3.0	1.3	.2	4.5
1973	11.6	3.7	1.0	16.3
1974	3.2	9.2	2.5	14.9
1975	1.3	5.1	1.9	8.3
1976	-1.8	2.7	1.2	2.1
1977	.1	1.8	4.1	6.0
1978	4.7	4.4	1.4	10.5
1979	3.3	6.3	1.2	10.8
1980	1.6	4.3	2.1	8.0
1981	.9	5.4	1.0	7.3
1982	.1	2.9	.4	3.4
1983	-.6	1.4	.3	1.1
1984	1.5	1.7	.5	3.7

Source: Derived from U.S. Department of Labor, Bureau of Labor Statistics data and USDA market basket statistics.

Retail poultry prices averaged 10.6 percent higher in 1984 than in 1983, the first significant price increase since 1980. Prices increased even though broiler producers increased their output by about 5 percent. Egg prices averaged 11.7 percent higher in 1984, the largest price increase among major food groups. Prices were higher because production slowed early in the year in response to higher feed costs and the avian flu that destroyed some laying hens.

Retail dairy product prices rose only 1.3 percent, a small annual increase for the third consecutive year. This increase was small, partly because there was no increase in the price support for milk. Also, the farm to retail price spread for dairy products rose moderately last year.

Among crop-based foods, retail prices in 1984 increased the most for fresh fruits and vegetables, up 11.0 percent. Prices rose sharply following a freeze from Texas to Florida in December 1983 that damaged vegetable and citrus crops. Processed fruit and vegetable product prices rose 6 percent. Prices for fats and oils rose 9.5 percent, reflecting a sharp rise in farm prices of soybeans, the principal source of vegetable oil.



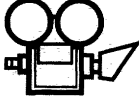



While foodstore prices rose more rapidly in 1984, they rose less than the overall inflation rate of 4.3 percent, as measured by the CPI for all items (fig. 3). This was the sixth consecutive year that food prices increased less than nonfood prices. Food prices rose more slowly because farm prices have not kept pace with general price levels. Farm value increased 25 percent from 1978 to 1984 whereas the CPI for all goods and services went up 59 percent.

#### Food Consumption Stable

As a result of last year's abundant supplies of most food and moderate rise in food prices, total food consumption changed little. In total, food consumption in 1984 was 1,425 pounds per person retail weight equivalent. Food consumption has been relatively stable over time at about 1,400 pounds per person (table 3). Food

Figure 3

#### **Food Prices Rise Less Than Average**

	Percentage increase
Food 	3.8%
Apparel and upkeep 	1.9%
Entertainment 	3.7%
Housing 	4.1%
Transportation 	4.5%
Medical care 	6.2%
<b>CPI, all items</b>	<b>4.3%</b>

CPI annual average, 1984.

consumption data are derived from information on total supply and use of farm products and, therefore, they are not direct measures of consumption. Rather, they measure disappearance of food from commercial channels.

Per capita consumption of animal products was nearly stable in 1984. Beef and veal consumption rose slightly to 81 pounds per person on a retail weight basis. Pork consumption declined slightly to 61 pounds per person. Poultry consumption continued a long upward trend in consumption. The use of dairy products rose because of large milk supplies and relatively stable prices.

Total per capita consumption of crop products was stable in 1984. However, fruit and melon consumption declined by 4 percent. Fruit use dropped because of 1984's small citrus crop. Fresh vegetable consumption was stable despite weather-related reductions in supplies early in the year.

Over the years, consumers have altered their consumption of major food groups. For instance, from 1974 to 1984, red meat consumption fell 9 pounds per person whereas poultry consumption rose 16 pounds. This change in consumption patterns was partly in response to changes in the relative prices of beef and veal, pork, and poultry. Poultry prices have increased much less than beef, veal, and pork prices. During the 10-year period from 1974 to 1984, beef and veal prices increased 64 percent, pork increased 57 percent, while poultry prices went up 49 percent. Thus, in relation to beef and pork, poultry prices declined.

Table 3--Annual per capita food consumption, retail weight equivalent

Food group	1974	1982	1983	1984 <u>1/</u>
	<u>Pounds</u>			
Total food	1,358	1,393	1,423	1,425
Animal products	591	570	583	585
Red meat	162	149	153	153
Beef and veal	88	79	80	81
Pork	62	59	62	61
Other	12	11	11	11
Poultry	50	64	65	66
Eggs	36	33	33	33
Dairy products	319	301	307	309
Other	24	23	25	24
Crop products	767	873	840	840
Flour and cereal products	143	150	150	150
Vegetable oils	43	49	50	53
Fruits and melons	151	164	175	168
Vegetables, including potatoes	277	296	298	299
Sugars and sweeteners	123	134	136	138
Other	30	30	31	32

1/ Preliminary.



In 1984, per capita egg consumption fell less than 2 ounces from 1983 to a record low, but the long-term drop in consumption has slowed in recent years. Dairy product consumption declined 9 pounds per person over the last 10 years.

Among crop foods, per capita consumption of fruits and melons the last 10 years rose 17 pounds, reflecting rising consumption of fresh fruits and frozen orange juice concentrate.

Vegetable and potato consumption rose to 299 pounds per person, up 22 pounds from 1974 to 1984 reflecting rising consumption of fresh vegetables and processed potato products. Consumption of vegetable oils increased 10 pounds since 1974 to a record-high 53 pounds per person last year.

## DEVELOPMENTS IN THE FARM VALUE

This section on farm value and the next one on the farm to retail price spread discuss changes in the two components of foodstore prices of domestically produced foods. The focus is on how these two components changed last year for all domestically produced food and for major food groups. The final section of this report explains how these components changed for particular food items such as a pound of pork, a loaf of white bread, or a can of tomatoes.

### What Farm Value Means

Farm value is a measure of the return or payment received by farmers for the farm products equivalent to retail foods. We calculated farm value by multiplying farm prices by the quantities of farm products equivalent to foods sold at retail. An allowance is made in farm values if byproducts are obtained in processing. The farm value usually represents a larger quantity than the retail unit because the foodstuffs farmers produce lose some weight in storage, processing, and distribution.

The farm product equivalent varies among foods. Only a slight amount of raw milk is lost, for example, as it is handled and processed for sale in cartons to consumers. Therefore, the farm value of the retail price per half-gallon is just a little more than the price that milk producers received per half-gallon. In contrast, nearly 2.4 pounds of live animal are needed to yield 1 pound of Choice beef on the meat counter. The payment the cattle producer receives for that larger quantity of live animal is the farm value in the price of 1 pound of retail beef.

### 1984 Developments

Following a drought, as well as smaller plantings, that substantially cut harvests in 1983 and boosted prices, crop production increased significantly in 1984. Market prices of corn and soybeans peaked near the end of 1983, then began a general decline early in 1984 in response to the prospect of larger crops. Contrary to expectations, meat production continued to rise in 1984 with total output up 1.5 percent. The increase was largely because of a higher than expected beef slaughter and rising broiler output. Pork producers cut back production. The large meat supplies weakened livestock prices, although prices averaged slightly higher for the year because of stronger consumer spending.

The farm value of foods in the market basket averaged 5.3 percent higher last year than in 1983 (table 4). This followed 3 years of nearly stable prices of farm commodities. Farm value of foods increased a scant 2 percent from 1980 to 1983.

Farm value in 1984 was highest at the beginning of the year, reflecting the smaller harvests the previous fall and cold winter weather that reduced market supplies of many commodities. Farm value declined slightly in the spring in response to larger fresh vegetable supplies and egg production. By June, the farm value had declined about 3 percent.

After rising slightly in the summer, the farm value of the market basket declined in the fall under the pressure of increasing supplies of meat. In December, a rise in livestock prices boosted the farm value back to the June level.

Among the major commodities, farm values of eight food groups rose, while the other two showed declines. Red meat's farm value, which accounts for about half of the total farm value of the market basket, averaged 2.5 percent higher. Farm value rose 18 percent for poultry and 11 percent for eggs. Dairy products declined slightly. The farm value of fresh fruit soared 43 percent mainly because of much smaller supplies of oranges. Farm values of crop products rose the most for fats and oils--29 percent--reflecting a smaller 1983 soybean crop that boosted oilseed prices. Farm value of bakery and cereal products rose only 2 percent because of large wheat supplies that held down farm prices.

Last year's farm value increase was the largest since 1979. The 1984 increase was preceded by a decline of 2 percent from 1982 to 1983. In contrast, during the seventies, the farm value had increased an average 7.6 percent a year, with some big year-to-year variations.

#### Farm Value Share

For most foods, the farm value makes up a relatively small part of the retail price. It averaged 34 percent for all foods in the market basket in 1984, compared with 33 percent in 1983 and 34 percent in 1982 (table 5). The rise in the farm-value share reflected tight supplies of some foods, which boosted farm prices, while retail prices rose more slowly reflecting the moderate rise in processing and marketing charges. Farm value share of the retail cost of food has trended down gradually since the midforties when the share was nearly 50 percent.

The percentage of the retail price change explained by the farm value was relatively large for some foods last year. Increases in farm value accounted for most of the rise in retail prices of meat, poultry, fats and oils, and fresh fruit. Higher retail prices for other foods resulted mainly from increases in farm to retail price spreads. Even though the farm value of processed fruits and vegetables rose 14 percent, over half of the rise in retail prices of 3.6 percent resulted from an increase in the farm to retail spread.

The farm value as a share of the retail price varies greatly among foods, depending on the inputs used to make specific food products and the complexities of the marketing process. In general, animal products have the

Table 4--Price changes for domestically produced foods 1/

Item	1980	1981	1982	1983	1984 <u>2/</u>
<u>Annual percentage change</u>					
Market basket:					
Retail price	7.2	7.7	3.6	0.9	3.9
Farm value	5.1	2.8	.2	-2.2	5.3
Farm to retail spread	8.6	10.5	5.0	2.5	3.2
Meat products:					
Retail price	2.9	3.6	4.8	-1.1	.3
Farm value	-.2	.6	6.7	-6.2	2.5
Farm to retail spread	6.3	6.7	3.0	4.0	-1.6
Dairy products:					
Retail price	9.9	7.1	1.4	1.2	1.3
Farm value	9.3	5.9	-1.5	.1	-1.2
Farm to retail spread	10.5	8.4	4.4	2.3	3.6
Poultry:					
Retail price	5.1	4.1	-1.9	1.3	10.6
Farm value	4.0	-.8	-3.9	5.9	17.7
Farm to retail spread	6.5	10.0	.4	-3.4	2.6
Eggs:					
Retail price	-1.8	8.3	-2.8	4.7	11.7
Farm value	-5.1	12.0	-8.1	8.9	11.1
Farm to retail spread	4.7	1.5	7.8	-2.5	12.9
Cereal and bakery products:					
Retail price	11.9	10.0	4.5	3.2	4.4
Farm value	16.5	-1.1	-12.5	5.6	1.6
Farm to retail spread	11.3	11.6	7.1	2.9	4.7
Fresh fruits:					
Retail price	5.1	5.3	13.0	-6.1	13.7
Farm value	5.7	4.4	20.9	-23.8	43.2
Farm to retail spread	9.9	5.6	10.2	.7	5.2
Fresh vegetables:					
Retail price	8.9	18.7	.5	3.6	10.9
Farm value	2.9	41.2	-8.5	2.3	11.9
Farm to retail spread	11.2	10.5	4.7	4.1	10.4
Processed fruits and vegetables:					
Retail price	7.0	12.0	5.3	1.0	6.0
Farm value	5.8	9.3	-5.4	-6.4	14.2
Farm to retail spread	7.4	12.8	8.5	2.9	4.1
Fats and oils:					
Retail price	6.6	10.7	-2.7	1.2	9.5
Farm value	-10.0	4.8	-20.8	20.8	29.3
Farm to retail spread	15.1	13.1	4.1	-4.3	2.3
Other foods:					
Retail price	13.3	10.7	4.2	3.1	3.0
Farm value	55.6	4.8	-7.6	4.6	-3.4
Farm to retail spread	6.1	13.1	6.3	2.8	4.0

1/ The market basket consists of fixed quantities of domestically produced foods derived from data on consumer expenditures in foodstores between July 1972 and June 1974. Retail price data are derived from U. S. Department of Labor, Bureau of Labor Statistics price indexes. The farm value is based on prices received by farmers for commodities equivalent to foods in the market basket. The spread between the retail price and farm value represents charges for processing and marketing functions. Some historical data have been revised. 2/ Preliminary.

Table 5--Indexes of retail price, farm value, and the farm to retail price spread for a market basket of farm foods, and farm value as a share of retail price 1/

Year	Retail price	Farm value	Farm to retail spread	Farm value share of retail price
-----1967 = 100-----				<u>Percent</u>
1950	81	99	70	47
1951	90	114	75	49
1952	91	110	80	47
1953	88	102	80	45
1954	87	97	81	43
1955	85	90	82	41
1956	86	89	83	40
1957	89	93	86	40
1958	94	100	90	41
1959	92	92	92	39
1960	92	94	91	39
1961	92	92	93	39
1962	93	94	93	39
1963	93	90	95	38
1964	93	90	96	36
1965	96	99	94	38
1966	101	106	98	39
1967	100	100	100	39
1968	104	105	103	38
1969	109	115	106	39
1970	114	114	114	37
1971	116	115	116	37
1972	121	125	119	38
1973	142	168	127	44
1974	162	182	150	42
1975	174	188	165	40
1976	175	178	174	38
1977	179	178	180	37
1978	199	204	195	38
1979	223	226	219	38
1980	239	238	238	37
1981	257	243	263	36
1982	266	248	277	34
1983	269	242	284	33
1984 <u>2/</u>	279	255	294	34

1/ The market basket consists of fixed quantities of domestically produced foods. It was derived from consumer expenditures in foodstores between July 1972 and June 1974. Retail price indexes are derived from Bureau of Labor Statistics data. Farm value is based on prices received by farmers for commodities equivalent to foods in the market basket. The spread between the retail price and farm value represents charges for processing and marketing functions. Some historical data have been revised. 2/ Preliminary.



highest ratios of farm value to retail price; the more highly processed crop products have the lowest. Last year, the farm value share of the retail price for major foods ranged from 64 percent for eggs to 9 percent for white bread (fig. 4).

Figure 4

<b>Farm Value Share of Foodstore Prices</b>			
	<b>1984 retail price</b>	<b>Farm value</b>	<b>Farm value share of retail price</b>
Eggs, large, 1 doz.	\$1.02	\$0.66	64%
Choice beef, 1 lb.	2.40	1.40	58
Chicken, 1 lb.	.81	.44	54
Milk, ½ gal.	1.13	.58	52
Pork, 1 lb.	1.62	.77	48
Frozen orange juice, 12 oz.	1.22	.48	39
Sugar, 1 lb.	.35	.14	40
Potatoes, Northeast, 10 lbs.	1.91	.68	35
Oranges, Calif., 1 lb.	.50	.17	33
Tomatoes, 1-lb. can	.53	.05	9
White bread, 1 lb.	.54	.05	9
Lettuce, 1 lb.	.50	.04	8
Potatoes, frozen, French fried, 1 lb.	.67	.10	14

Computed from unrounded data.

#### DEVELOPMENTS IN THE FARM TO RETAIL PRICE SPREAD

The farm to retail spread is the difference between farm value and retail price. It represents payments for all assembling, processing, transporting, and retailing charges added to the value of farm products after they leave the farm.

The farm to retail price spread for the market basket of foods averaged 3.2 percent higher in 1984. This increase was slightly larger than in 1983, but was less than the rise in the general inflation rate.

While the farm to retail price spread averaged higher in 1984, it varied very little during the year, reflecting the relatively stable inflation rate throughout the economy. The farm to retail price spread rose most early in the year and averaged about 3 percent higher in June 1984 than in December 1983. From June to the end of 1984, the price spread increased about 1 percent. The farm to retail spread in December was 4 percent above a year earlier.

### Price Spreads Increased for Most Foods

The farm to retail price spread increased for all but one major food group in 1984 (table 4). For most groups, increases were moderate, continuing the pattern of the previous 2 years. The farm to retail spread for red meats registered a 1.6-percent decrease in 1984. However, the 1984 decrease was preceded by a slightly larger increase for meat in 1983 than the average for all foods.

Farm to retail price spreads increased between 2 and 5 percent for bakery and cereal products, fats and oils, processed fruits and vegetables, and dairy products. The increases for these foods reflect their high degree of processing and therefore the relatively large use of all marketing inputs, particularly packaging and energy.

Farm to retail price spreads for fresh fruit rose 5 percent, and those for fresh vegetables increased 10 percent. These spreads tend to vary with the change in farm value, because retail prices are established by a percentage markup on cost. Last year farm values increased sharply.

Farm to retail price spreads increased 3 percent for poultry and 13 percent for eggs as retail prices significantly rose. Over time, increases in the price spread for these foods have been smaller than those for most others because poultry and egg processors have achieved greater economies of scale and have used more automation in processing and handling. Between 1979 and 1984, price spreads increased 26 percent for eggs and 16 percent for poultry compared with an average 34-percent increase for other farm foods.

The farm to retail price spread in 1984 rose by a smaller amount than did the prices that the food industry had to pay for inputs. An index of labor costs and the prices paid for inputs by food processors, wholesalers, and grocery firms went up by 4.3 percent. This increase was about 1.5 times larger than in 1983.

### Farm Value Slows the Rise in Foodstore Prices since 1980

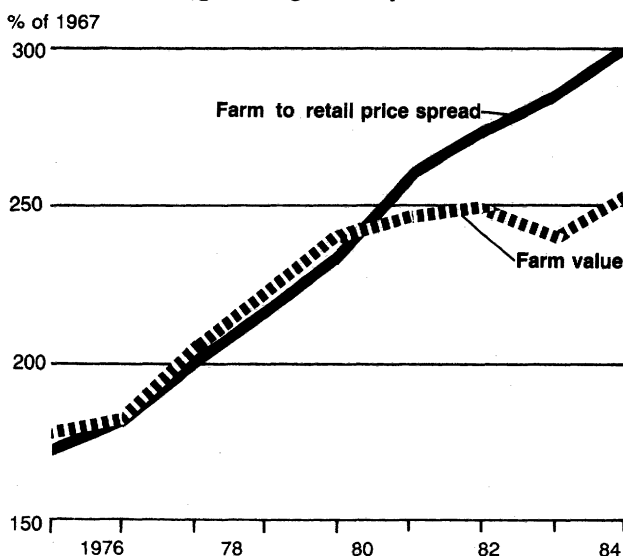
Relatively small increases in the farm value mainly slowed the rate of increase in retail food prices since 1980 (fig. 5). Retail food prices in grocery stores rose 16.3 percent from 1980 through 1984. Retail food prices rose less than did all other items in the CPI, which registered a 27.6-percent increase since 1980.

The slower rise in food prices than the CPI for other items can be traced to the farm value, which rose only 7 percent since 1980, and therefore held down the rise in retail food prices. The farm to retail spread rose 23 percent, or about the same amount as the overall inflation rate. Retail prices of non-farm foods increased 14 percent.

In 1981, very large crop production and rising meat supplies limited the rise in farm value to under 3 percent. As a result, retail food prices went up much less than inflation. In 1982, crop harvests were again large. While meat production declined slightly, there was virtually no increase in the farm value because domestic and foreign demand for agricultural commodities was weaker during the long recession. In 1983, the farm value declined because of a substantial increase in livestock production, particularly hogs, and continued large supplies and weak demand for most food commodities.

Figure 5

### **Food Marketing Charges Outpace Farm Value**



Farm value represents prices received by farmers for commodities equivalent to a fixed market basket of foods. Price spread is the difference between farm value and retail cost of the market basket and represents all charges for processing and distribution.

The farm value of food also has not kept pace with prices paid by farmers for production items. Since 1980, the farm value has risen 7 percent, compared with an increase of 17 percent in prices of production inputs. This disparity between the payments farmers received for food products and prices paid for inputs depressed farm income the past several years.

The farm to retail price spread for the market basket of foods increased each year since 1980. Increases in the farm to retail spread usually were closer to the inflation rate than to the farm value, setting the pace for retail food price increases.

The prices that the food industry must pay for such marketing inputs as labor, energy, or packaging materials drive up the farm to retail spread. USDA's marketing cost index for these inputs increased about 35 percent since 1980. The increase in marketing input prices, tempered by gains in food industry productivity and other economies, pushed the farm to retail price spread up about 23 percent.

### **FOOD INDUSTRY COSTS, PROFITS, AND PRODUCTIVITY**

Many factors influence how much the food industry charges for its services. Food industry input costs, profits, and productivity largely determine how much is added to the price of food after it leaves the farm.

#### **Prices of Marketing Inputs**

Increases in farm to retail price spreads mainly reflect rising costs faced by food industry firms. These costs include wages and salaries of workers and prices of many inputs bought by marketing firms from other parts of the economy. USDA's Economic Research Service developed a marketing cost index

(MCI) for monitoring and analyzing changes in labor costs and prices of other inputs. The MCI measures price changes for supplies and services used in processing, wholesaling, and foodstore retailing of domestically produced foods. It does not cover input prices for doing business at eating places, however. The MCI represents all nonfarm food marketing costs except depreciation of buildings and equipment, long-term interest, and profits.

Prices in the index are weighted by the quantities used in the base period. That means that the price changes of the items that the food industry uses the most have the greatest effect on the index.

The largest component of the index (47 percent) is labor costs, which is composed of hourly earnings of workers and employee benefits. Labor is followed in importance by food containers and packaging materials (15 percent), transportation rates (10 percent), and energy costs (8 percent). Other cost components include advertising, maintenance and repair services, insurance, short-term interest, rent, and miscellaneous supplies and services.

In 1983, the MCI rose 4.3 percent, about 1.5 times as much as the year before. Prices of marketing inputs tend to follow movements in the general price level of the economy because these inputs include a broad range of goods and services. The general inflation rate, as measured by the implicit price deflator for gross national product, rose 3.7 percent in 1984.

Price increases were larger for most of the principal categories of inputs bought by the food industry. The index of prices paid for food containers and packaging materials rose about 10 percent in 1984. Much of the rise reflected a price rebound for polyethylene resin, the major material used in plastic containers and packages. Manufacturers severely cut prices for this material in 1982 because of weak demand in nonfood markets such as automobiles and housing. Prices for paperboard products, such as shipping boxes and milk cartons, also rose sharply in 1984. Prices for metal cans advanced by over 6 percent.

A combined price index of fuels and electricity was relatively steady in 1984 for the second consecutive year. Prices of petroleum products (diesel fuel and fuel oil) fell about 2 percent, but electric rates rose just over 5 percent. Prices for natural gas and liquid propane gas, a principal energy source for food processing, rose less than 1 percent (table 6).

Labor costs, the principal component of the MCI, rose by 3.1 percent in 1984, compared with 4.1 percent in 1983 and 6.7 percent in 1982. Labor costs include both hourly earnings of workers and wage supplements, principally employer Social Security and unemployment taxes, pensions, and health insurance.

Hourly earnings, over four-fifths of the labor index, contributed the most to the moderate rise in the labor cost. The average increase in hourly earnings of food marketing workers declined from 4.2 percent to 2.9 percent in 1984. The rise in hourly earnings of workers in food retailing slowed from 4.2 percent in 1983 to 2.3 percent in 1984. Earnings also increased at a slower rate in food manufacturing and in wholesaling (table 7). The increases reflected smaller new wage settlements, reduced cost of living adjustments (COLA's) to wages of many workers, and no change in the minimum wage.

Table 6--Price changes in food marketing inputs 1/

Cost item	1979	1980	1981	1982	1983	1984 <u>2/</u>
<u>1967 = 100</u>						
Labor <u>3/</u>	265.8	292.6	321.3	342.7	356.7	367.8
Packaging materials	228.4	261.4	280.9	275.2	280.7	308.0
Paperboard boxes and containers	202.1	234.7	258.2	254.9	251.0	281.3
Metal cans	293.0	325.7	345.8	363.6	374.3	398.7
Transportation	251.3	297.9	345.9	371.0	374.5	391.7
Fuels and electricity	418.2	564.0	669.2	705.1	705.1	712.5
Electricity	270.3	320.1	367.9	406.0	417.9	440.0
Petroleum	574.6	850.8	1,056.2	1,012.4	895.9	880.2
Natural gas	544.8	733.7	826.3	990.3	1,155.6	1,162.6
Maintenance and repair	249.7	277.1	304.0	325.1	338.2	350.4
Supplies	224.3	258.8	283.8	289.1	286.5	288.3
Interest, short term	213.5	240.3	288.8	232.6	174.0	198.8
Total marketing cost index	252.2	286.2	317.5	333.8	343.0	357.9
<u>Annual percentage change</u>						
Labor <u>3/</u>	8.8	10.1	9.8	6.7	4.1	3.1
Packaging materials	11.6	14.4	7.5	-2.0	2.0	9.7
Paperboard boxes and containers	12.7	16.1	10.0	-1.3	-1.5	12.1
Metal cans	23.7	11.2	6.2	5.1	2.9	6.5
Transportation	14.0	18.5	16.1	7.3	.9	4.6
Fuels and electricity	26.1	34.9	18.7	5.4	0	1.0
Electricity	7.9	18.4	14.9	10.4	2.9	5.3
Petroleum	44.3	48.1	24.1	-4.1	-11.5	-1.8
Natural gas	27.1	34.7	12.6	19.8	16.6	.7
Maintenance and repair	10.0	11.0	9.7	6.9	4.0	3.6
Supplies	13.3	15.4	9.7	1.9	-.9	.6
Interest, short term	36.5	12.6	20.2	-19.5	-25.2	14.3
Total marketing cost index	11.1	13.5	10.9	5.1	2.8	4.3

1/ Data measure changes in prices for fixed quantities of labor and other inputs used in processing, wholesaling, and retailing farm foods sold through foodstores. 2/ Preliminary. 3/ Hourly earnings and benefits.

Labor supplements increased by an estimated 4 percent, considerably more than hourly earnings. The increase in these costs included a rise in the Social Security tax rate for employers from 6.7 to 7 percent and an increase in the amount of taxable wages. Other employer-paid health and welfare costs continued to rise, but employers have attempted to reduce benefits or require employees to pay a share out of their wages.

Union contract settlements in food retailing during 1984 provided relatively small average wage adjustments for retail clerks and meatcutters. In some settlements, workers did not receive any wage increase the first year of their contracts. Other employee concessions on compensation continued to be prevalent in 1984 including givebacks of previously negotiated wage increases, smaller overtime pay rates, fewer holidays, and smaller employer contributions to health and welfare plans.

In the largest food retailing labor settlement in 1984, 65,000 workers in Southern California received a wage increase of slightly less than 1 percent the first year of the contract. This increase will be followed by wage increases of 1.7 percent in 1985, 2.9 percent in 1986, and 1.6 percent in 1987 for a total wage increase of about 7 percent over the 3-year contract.

A price index of supplies used by food processors and retailers averaged less than 1 percent higher in 1984. This index is based on producer prices of motor vehicle supplies, chemicals, cleaning materials, and numerous other items. Prices for services, such as maintenance and repairs, increased about 4 percent.

The transportation cost index representing railroad freight rates averaged about 4.6 percent higher in 1984 compared with a 1-percent rise a year earlier. Rates increased while shipments of foodstuffs in box cars and refrigerated cars declined about 8 percent from the prior year. Many food items, including fresh fruits and vegetables, are shipped in truck trailers

Table 7--Average hourly earnings of production and nonsupervisory employees of food industries

Year	Manufacturing, food and kindred products	Wholesale trade, groceries, and related products	Foodstores	Eating and drinking places
<u>Dollars per hour</u>				
1977	5.37	5.43	4.77	2.93
1978	5.80	5.92	5.23	3.22
1979	6.27	6.39	5.67	3.45
1980	6.85	6.96	6.24	3.69
1981	7.44	7.57	6.85	3.95
1982	7.92	8.25	7.22	4.09
1983	8.20	8.69	7.52	4.27
1984	8.42	9.10	7.69	4.32

Source: Employment & Earnings, U.S. Department of Labor.

carried on special railroad flat cars (TOFC). During 1984 more than 2.6 million TOFC cars were shipped, 14 percent more than in 1983, and 73 percent above 1980, the last full year in which TOFC shipments were regulated. TOFC shipments of produce rose about 4 percent during 1984 while their market share moved up to 6.3 percent of total.

While the costs of operating trucks, as reported by USDA's Office of Transportation, rose about 1.1 percent last year, truck rates for fresh produce shipments climbed 4 to 7 percent. These increases illustrate the complex demand factors present in fresh produce marketing. Over longer periods of time, truck rates and truck costs move together. Last year, both costs and rates averaged about 15 percent above 1980 levels. In the short run, however, rates are greatly influenced by the number of trucks readily available in an area in which fresh produce is ready for harvest. On a day-to-day or week-to-week basis, produce rates are volatile.

Shippers must consider the perishability of their harvested crop, and truckers are willing to offer discounts in return for regular shipment. Lettuce and apples offer examples of both situations. Lettuce must be shipped shortly after harvest to maintain product quality, and lettuce growers cannot tell very far in advance when a given field will be ready for harvest. As a result, lettuce shippers must bargain immediately with the truckers present near the field being harvested. In effect, lettuce shippers cannot wait for more trucks to arrive. Consequently, lettuce rates tend to be relatively high. In 1984, lettuce shippers paid as much as \$5.30 per box during the peak season. Sometimes, however, the supply of trucks near the fields being harvested is quite large. Last year, truckers received as little as \$3.20 per box for hauling lettuce to New York City. As might be expected, lettuce rates show the most variation of three commodities studied (table 8). On a monthly average basis, lettuce rates varied \$0.25 per box from the annual average. Apple rates on the same basis, varied less than a penny a box during 1984.

Apple growers confront a very different and more favorable transportation situation. Apples of a given variety in a single region all become ready for harvest at approximately the same time. Since apples can be stored for long periods with no loss in market quality, apple shippers can delay shipment until a enough trucks become available. Thus, rates for apples tend to be lower than for lettuce. In addition, apple shipments from a single region are fairly evenly spaced over the year. This regular demand pattern allows shippers and truckers to enter into season-long agreements at stable rates. The rate for apples trucked from Washington to New York City remained at \$3.56 per box from July to December 1984.

#### Food Industry Profit Margins

Profit margins of food processors and retail food chains are small relative to labor and other costs and, therefore, usually account for only a small part of the rise in marketing charges.

Profit margins of food chains typically average about 1.5 cents per dollar of sales, and about 1 cent after taxes. Profits per dollar of sales of food manufacturers are higher, averaging 5 to 6 cents before taxes and slightly over 3 cents after taxes, mainly because of their much larger capital investment per dollar of sales.



Table 8--Trucking costs and rates for fresh fruits and vegetables, selected items and routes, annual average, 1980-84

Year	Truck costs <u>1/</u>		Truck rates by commodity and origin/destination <u>2/</u>	
	Owner operators	<u>Lettuce 3/</u>	<u>Citrus and vegetables</u>	<u>Apples</u>
		California to New York City	Southern California to New York City	Washington to New York City
	<u>Dollars per mile</u>	<u>Dollars per box</u>		
1980	1.00	3.36	2.77	3.09
1981	1.12	3.45	2.77	3.25
1982	1.16	3.62	2.91	3.20
1983	1.14	3.62	2.98	3.41
1984	1.15	3.89	3.18	3.55
		<u>Percent</u>		
Change from 1980 to 1984	15.4	15.6	15.1	14.8

1/ Truck costs developed by Office of Transportation, USDA. 2/ Truck rates are the average rates reported by Agricultural Marketing Service, Market News Service, USDA, for the first week of the month. Rates per truck were converted at: Lettuce 800 boxes/load, citrus and vegetables 1,000 boxes/load, apples 900 boxes/load. 3/ January to April: Imperial Valley, California to New York City; May to December: Salinas, California to New York City.

The profit margins of many food processors were relatively stable in 1984. Although ingredient costs were higher because of the rise in many commodity prices in 1983 and early 1984, margins were maintained as a result of relatively stable operating costs and cost-cutting measures in recent years. Food manufacturers' profit margins averaged 3.3 percent of sales in 1984, the same rate as in 1983, based on data compiled by the Federal Trade Commission (FTC). Returns on stockholders' equity rose slightly to 12.5 percent last year, compared with 12.3 percent a year earlier (table 9).

Profit margins of retail food chains rose in 1984 and were much higher than other years in the past decade. Industry profits averaged higher each quarter of the year. Supermarket profit margins were highest in the fourth quarter because of holiday buying. For the year, profit margins of retail food chains averaged 1.4 percent of sales, up from 1.1 percent a year earlier.

Food chains' profit margins improved last year partly because of reduced cost pressures, particularly labor and energy, and probable small gains in productivity. Retailers have also been opening larger supermarkets that carry more nonfood items which have higher markups than groceries.

The profit picture for individual leading food chains varied in 1984 (table 10). First National Supermarkets operated at a loss for the first 9 months,

Table 9--Profit margins of food manufacturers and retail food chains,  
industry averages

Year and quarter	Food manufacturers <u>1/</u>			Retail food chains <u>2/</u>		
	After-tax profits as a percentage of--					
	Stockholder			Stockholder		
	Sales	equity	Assets	Sales	equity	Assets
	<u>Percent</u>					
1976	3.5	14.9	7.5	0.8	10.0	4.3
1977	3.1	13.2	6.7	.8	10.7	4.5
1978	3.3	13.8	6.8	.9	12.7	4.7
1979	3.3	14.7	7.2	.9	12.7	4.2
1980	3.4	14.7	7.1	.9	13.7	4.5
1981	3.1	13.6	6.5	1.0	13.9	4.7
1982	3.1	13.0	6.3	.9	12.7	4.4
1983	3.3	12.3	6.0	1.1	13.6	4.9
1984	3.3	12.5	5.8	1.4	17.3	6.0
1980:						
I	3.0	12.8	6.2	.8	11.4	3.7
II	3.1	13.5	6.7	1.0	15.2	5.0
III	3.5	15.2	7.4	.8	11.2	3.6
IV	3.7	16.8	8.1	1.1	17.1	5.6
1981:						
I	3.0	13.4	6.3	.8	11.8	3.8
II	3.2	14.1	6.8	.9	13.2	4.5
III	3.2	13.8	6.6	.6	9.3	3.1
IV	3.3	14.6	6.9	1.5	21.0	7.2
1982:						
I	2.8	12.0	5.7	.1	.9	.3
II	3.2	13.7	6.6	1.2	16.5	5.7
III	2.7	11.5	5.5	1.0	13.5	4.6
IV	3.6	14.8	7.2	1.5	19.3	6.7
1983:						
I	2.2	8.0	3.9	1.0	11.8	4.3
II	3.4	12.5	6.2	1.2	14.2	5.2
III	3.5	13.2	6.5	.9	11.2	4.0
IV	4.0	15.2	7.4	1.3	17.0	6.0
1984:						
I	3.3	12.1	5.8	1.5	18.0	6.5
II	3.3	13.1	6.3	1.4	17.6	5.9
III	3.1	12.1	5.5	1.2	14.3	4.8
IV	3.3	12.9	5.7	1.6	19.2	6.9

1/ Data for food manufacturers represent aggregate estimates for corporations based on a sample of company reports. 2/ Data for food chains are based on reports from all food retailing corporations having more than \$100 million in annual sales, at least 70 percent of which are derived from supermarket operations.

Source: Federal Trade Commission.

and Allied Supermarkets just broke even. In contrast, two firms, Albertson's and the Atlantic & Pacific Tea Company, bettered their profit margins per dollar of sales in 1984. Safeway, the largest food chain, earned the same profit margin but was below the industry average.

### Food Industry Labor Productivity

The 1984 statistics measuring food industry productivity will not be available until July of this year. For this reason, food industry productivity estimates for 1984 were not available at press time. Even so, there have been some early pointers. Looking at productivity in the Nation's business sector generally, excluding farming, we have estimates that there was about a 3-percent gain in productivity for the year (table 11). Productivity in the food industry probably improved slightly.

First, retail foodstore sales increased 2 to 3 percent in real terms for the second consecutive year, making it probable that productivity increased. Second, it's reasonable to assume that a long uptrend in labor productivity of companies that manufacture food continued in 1984. Output per unit of labor in food manufacturing showed a steady increase of 2 to 3 percent per year over the past 15 years. These increases resulted from an upward trend in output and a small decline in hours worked, reflecting in part the substitution of capital for labor as a consequence of new technology. Labor productivity among food manufacturers has increased most in fluid milk processing and grain milling (table 12). Productivity has grown erratically for most industries, mainly because of ups and downs in farm output and business conditions.

Table 10--After-tax profits of selected supermarket food chains  
per dollar of sales, first 9 months of calendar year

Firm	1981	1982	1983	1984
	<u>Percentage of sales</u>			
Albertson's	1.3	1.7	1.5	1.6
Allied Supermarkets	.7	.7	-.4	<u>1/</u>
American Stores	.6	1.0	1.3	1.0
Atlantic & Pacific Tea	-.5	-5.4	.6	.9
First National	.4	.4	.3	-.8
Giant Food	.4	1.9	1.9	1.9
Kroger	.9	1.2	.8	.8
Lucky	1.1	.9	1.1	.9
Safeway	.5	.8	.8	.8
Stop & Shop	.3	.7	1.1	1.1
Supermarkets General	.7	.8	1.0	1.0
Winn-Dixie	1.5	1.5	1.6	1.6

1/ Less than 0.1

Source: "Food Institute Reports," The American Institute of Food Distribution Inc., Fair Lawn, New Jersey.

Labor productivity among supermarkets suffered a series of setbacks in the seventies and has shown very little improvement in recent years. Small gains in supermarket productivity probably have resulted recently from changes in operations. These include computer-assisted checkout systems and data processing systems and the introduction of new store formats such as warehouse-like stores with a limited assortment of goods and super-stores. These stores provide reduced services and thus cut labor requirements, or they foster higher sales per unit of labor. Many food chains also have closed smaller, inefficient stores. The industry also has been placing greater emphasis on increasing employee productivity through such methods as quality control circles, training programs, and rotation of work assignments. Output per hour of labor in foodstores in 1983 was 0.2 percent higher than in 1982 but still below the level attained by the industry in the early and midseventies.

The trend in productivity is similar for eating places. Labor productivity in eating and drinking places has been nearly stable since the midseventies,

Table 11--Productivity measured by output per unit of labor

Year	Food-stores	Eating and drinking places	Nonfarm business sector of the economy
<u>1977 = 100</u>			
1967	98.0	97.5	84.0
1968	103.0	99.7	86.8
1969	103.9	97.8	86.5
1970	109.8	101.0	86.8
1971	110.4	98.3	89.7
1972	110.3	102.3	93.0
1973	105.5	103.6	95.3
1974	101.1	99.1	92.9
1975	100.7	101.0	94.7
1976	102.0	101.4	97.8
1977	100.0	100.0	100.0
1978	95.7	99.3	100.6
1979	98.0	99.2	99.1
1980	100.8	99.4	98.4
1981	98.2	96.8	100.3
1982	96.9	96.1	100.2
1983 <u>1/</u>	97.1	98.4	103.4
1984 <u>1/</u>	--	--	106.6

-- = Not available.

1/ Preliminary. Some historical data were revised.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

perhaps because of a growing number of fast-food establishments. In 1983, productivity rose over 2 percent. However, output per employee hour in 1983 was about 2 percent lower than in the midseventies.

#### FOOD SPENDING: HOW IT WAS DISTRIBUTED

In this section, we review what consumers actually spent for domestically produced foods in 1984. Earlier sections reported on the prices we paid. But spending counts how much we bought as well as the prices we paid. There's a second difference to keep in mind. The expenditures reported in this section include spending at eating places, not just at foodstores. As we did for food prices, we break down food expenditures into two components:

Table 12--Indexes of output per employee hour in selected food manufacturing industries

Year	Red meat products	Fluid milk	Preserved fruits and vegetables	Grain mill products	Bakery products	Sugar
<u>1977 = 100</u>						
1967	74.8	62.9	73.8	73.0	82.8	77.1
1968	76.6	66.5	75.6	77.0	84.5	80.5
1969	75.2	69.6	76.9	78.3	84.7	78.6
1970	77.2	73.7	79.7	79.7	87.5	85.9
1971	78.9	79.4	83.1	83.3	89.5	84.9
1972	85.0	85.1	84.6	85.5	94.1	90.4
1973	82.9	88.4	93.1	81.7	93.6	96.3
1974	83.5	90.9	91.7	86.4	93.6	93.2
1975	82.9	95.5	93.7	87.1	93.4	94.0
1976	90.6	99.5	100.1	91.1	93.9	95.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.7	108.0	104.4	100.4	97.2	101.0
1979	101.7	116.3	99.3	102.2	94.1	109.1
1980	107.0	124.8	101.2	107.1	92.3	109.1
1981	107.9	129.3	99.6	112.9	94.3	111.2
1982	107.7	133.5	107.5	122.5	100.4	105.7
1983	--	140.6	--	--	--	107.6
Average annual change:	<u>Percent</u>					
1967-82 <u>1/</u>	2.3	5.1	2.6	3.5	1.3	2.1
1977-82 <u>1/</u>	1.5	5.8	2.3	3.4	.0	1.2

-- = Not available.

1/ For fluid milk and sugar, the changes are calculated through 1983.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

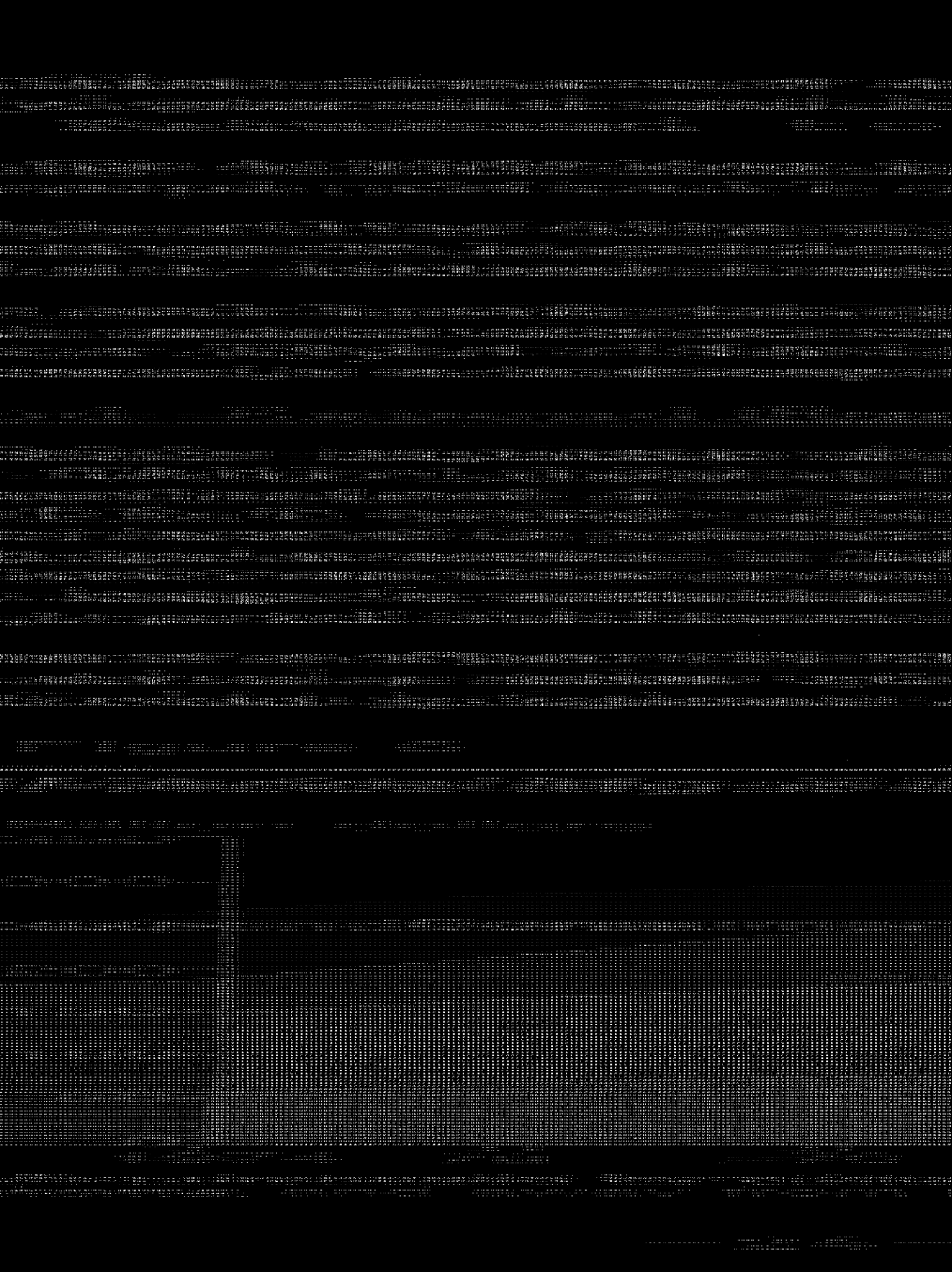


Table 13--Consumer expenditures for domestically produced farm foods, the estimated marketing bill, and farm value

Item and year	Total	For food at food- stores <u>1/</u>	Eating away from home		
			Total	Public eating places <u>2/</u>	Institu- tions- <u>3/</u>
<u>Billion dollars</u>					
Consumer expenditures:					
1972	122.2	85.3	36.8	29.4	7.4
1973	138.8	98.5	40.3	32.5	7.8
1974	154.6	109.5	45.1	36.1	9.0
1975	167.0	116.2	50.8	40.5	10.3
1976	183.3	127.2	56.1	45.5	10.6
1977	190.9	130.8	60.1	48.6	11.5
1978	216.9	149.2	67.7	55.5	12.1
1979	245.2	169.4	75.8	62.2	13.6
1980	264.4	180.1	84.3	69.1	15.2
1981	287.7	194.0	93.7	76.8	16.9
1982	298.9	196.8	102.2	84.2	18.0
1983	315.0	204.6	110.4	91.8	18.6
1984 <u>4/</u>	332.2	213.5	118.7	99.5	19.2
Marketing bill:					
1972	82.4	52.9	29.4	23.6	5.8
1973	87.1	56.1	31.0	25.1	5.9
1974	98.2	63.6	34.5	27.7	6.8
1975	111.4	72.2	39.2	31.3	7.9
1976	125.0	79.4	45.6	37.2	8.4
1977	132.7	83.5	49.2	40.0	9.2
1978	147.4	93.9	53.6	44.3	9.3
1979	166.1	104.9	61.2	50.7	10.5
1980	182.7	113.9	68.8	56.9	11.9
1981	204.5	127.0	77.5	64.1	13.4
1982	215.2	129.9	85.3	70.9	14.4
1983	230.2	137.2	93.0	78.1	14.9
1984 <u>4/</u>	242.7	142.3	100.4	85.0	15.4
Farm value:					
1972	39.8	32.4	7.4	5.9	1.5
1973	51.7	42.4	9.3	7.4	1.9
1974	56.4	45.9	10.6	8.4	2.2
1975	55.6	44.0	11.6	9.2	2.4
1976	58.3	47.8	10.5	8.3	2.2
1977	58.2	47.3	10.9	8.6	2.3
1978	69.5	56.4	13.1	10.3	2.8
1979	79.2	64.5	14.7	11.6	3.1
1980	81.7	66.2	15.5	12.3	3.3
1981	83.2	67.0	16.3	12.8	3.5
1982	83.7	66.8	16.9	13.2	3.6
1983	84.9	67.5	17.4	13.7	3.7
1984 <u>4/</u>	89.5	71.2	18.3	14.5	3.8

1/ Includes food primarily purchased at retail foodstores for use at home.  
2/ Includes food purchased at restaurants, cafeterias, snackbars, and other public eating establishments. 3/ Includes the value of food served in hospitals, schools, colleges, rest homes, and other institutions. 4/ Preliminary. Some historical data have been revised.

population accounted for the remainder of the increase in value of food purchased. Spending for food in public eating places rose at a greater rate than spending in foodstores, in part because of a larger price increase for restaurant meals than for foods sold in foodstores.

Meat products represent by far the largest share of the retail value of the food we bought. Retail value of meat in 1983 (the latest available data) was 30 percent of total expenditures, compared with 21 percent for fruit and vegetables, the next largest expenditure group (table 14). Because the consumption of foods changes slowly, there has been little change in the proportion of expenditures accounted for by meat products and other food groups from year to year.

### Farm Value Rises

How much of what consumers spent on food last year represented payments to farmers? We estimate that farmers received about \$89.5 billion in 1984 for the farm products equivalent to the foods purchased by consumers or eaten by them in hospitals and other institutions.

Farm value increased about \$4.5 billion in 1984, the first significant increase in 5 years. Higher prices for fruit, vegetables, poultry, and eggs accounted for much of the rise in total farm value.

The largest share of the money received by farmers for domestic food sales pays for meat products. In 1983, the latest year for which we have data, the farm value of meat was about 37 percent of the total. The next largest share, 20 percent, paid for dairy products. While livestock and dairy producers thus garnered over half the farm value, it is important to remember that they bought substantial amounts of grain from crop farmers.

The farm value of food products represented 27 percent of consumer expenditures for farm foods in 1984. This was the same percent as for 1983.

The farm value is a much smaller part of what we spend for foods eaten away from home than for foods bought at stores because the cost of preparing and serving foods is a huge part of the cost of food eaten out. In 1984 farm value accounted for about 15 percent of away-from-home expenditures, compared with about 33 percent of expenditures for farm foods in foodstores.

### Food Spending Increases More Slowly than Income

Although food expenditures are rising, they are not increasing as much as consumer income. This illustrates one way in which we are still improving our standard of living. A declining proportion of our income is required for food, leaving more money for other things.

In 1984, Americans spent about 15.1 percent of total disposable income on food (domestically produced foods, fish, and imported foods). This share compares with 15.6 percent in 1983 and 16.8 percent 10 years ago. Last year, moderate inflation coupled with a large jump in disposable income reduced the share of income spent on food by a larger amount than in most years over the past decade. Much of this decline in the proportion of income spent for food is attributable to a decline in the farm value component. Farm value of the foods produced on U.S. farms declined from 5.6 percent of consumer disposable income 10 years ago to 3.5 percent last year.



The proportion of income spent on food varies widely by income levels. Based on 1981 data, the latest available, consumers with incomes between \$5,000 and \$10,000 spend an average of 24 percent of their income for food whereas consumers with incomes of \$30,000 and over spend an average of 10 percent.

Table 14--Consumer expenditures, marketing bill, and farm value  
for major food groups, 1983

Item	Total	For food at foodstores	Eating away from home
<u>Billion dollars</u>			
Consumer expenditures:			
Meat	94.2	47.1	47.1
Fruits and vegetables	66.5	55.5	11.0
Dairy products	45.0	27.0	18.0
Bakery products	31.0	22.6	8.4
Poultry	16.3	10.2	6.1
Grain mill products	9.2	7.3	1.9
Eggs	5.4	3.7	1.7
Other foods	47.4	31.2	16.2
Total	315.0	204.6	110.4
Marketing bill:			
Meat	62.8	24.3	38.5
Fruits and vegetables	53.5	44.8	8.7
Dairy products	27.8	13.4	14.4
Bakery products	27.5	19.6	7.9
Poultry	9.7	4.4	5.3
Grain mill products	7.8	6.0	1.8
Eggs	2.8	1.3	1.5
Other foods	38.3	23.4	14.9
Total	230.2	137.2	93.0
Farm value:			
Meat	31.4	22.8	8.6
Fruits and vegetables	13.0	10.7	2.3
Dairy products	17.2	13.6	3.6
Bakery products	3.5	3.0	.5
Poultry	6.6	5.8	.8
Grain mill products	1.4	1.3	.1
Eggs	2.6	2.4	.2
Other foods	9.1	7.8	1.3
Total	84.8	67.4	17.4

### Marketing Bill Boosted Food Spending

The marketing bill, the difference between what consumers spent for food and the farm value, amounted to \$243 billion in 1984, about \$12.5 billion, or 5.5 percent, more than in 1983. Last year's increase in the marketing bill explained over 70 percent of the \$17-billion rise in expenditures for farm foods.

Higher labor costs accounted for slightly less than half of last year's increase in the marketing bill. Much of the remaining increase in the bill occurred in food packaging costs and in the category of other costs including such items as rents, depreciation, taxes and insurance, and professional services.

The increase of 5.5 percent in the marketing bill in 1984 was greater than the rise in prices of most inputs and the general inflation rate. This was because an increase in the volume of food marketed boosted the marketing bill.

Marketing costs continue to be the most persistent source of rising food expenditures. Retail expenditures for domestic farm foods have increased about \$87 billion since 1979. About \$77 billion of this increase consists of charges for marketing products after they leave the farm. Farm value has increased only \$10 billion since 1979, with nearly half of the increase occurring in 1984.

### What the Marketing Bill Bought

To get a clearer idea of what we bought when we paid last year's marketing bill, we must look first at four broad functions that the food industry performs--processing, wholesaling, transporting, and retailing--and then at the specific cost items that add up to the marketing bill.

Costs of the functions performed are different for foods bought in foodstores than for away-from-home purchases of restaurant meals and snacks. For 1984, about 33 cents of each dollar spent in foodstores paid for the farm value. Thus, 67 cents paid the marketing bill.

Looking at the bill for each dollar's worth of food bought in foodstores by function, 30 cents paid for processing. Between processor and retailer, another 10 cents was spent for wholesaling and 6 cents for intercity transportation. Finally, retailing charges added the last 21 cents (fig. 7 and table 15). These shares have been relatively constant over the years because costs of each function have risen at roughly similar rates.

For dollars spent for food away from home, 15 cents covered the farm value. Processing costs accounted for 20 cents, transportation charges for 3 cents, and wholesaling for 7 cents. Thus, 55 cents, or more than half of the dollar, was paid for food service which is the preparation and serving of food eaten out.

The food processing and marketing industry is an important part of the American economy. The \$243 billion the industry received from consumers in 1984 was in turn spent to pay the wages and salaries of millions of employees and to pay for all of the other costs of doing business.

### Labor, the Largest Cost

Direct labor costs are the largest part of the marketing bill. They amounted to \$108 billion in 1984, 33 percent of food expenditures (fig. 8 and table 16). Labor costs consist of wages, salaries, and employee health and welfare benefits, imputed

Figure 7

### Components of the Food Dollar Spent for At-Home and Away-from-Home Consumption

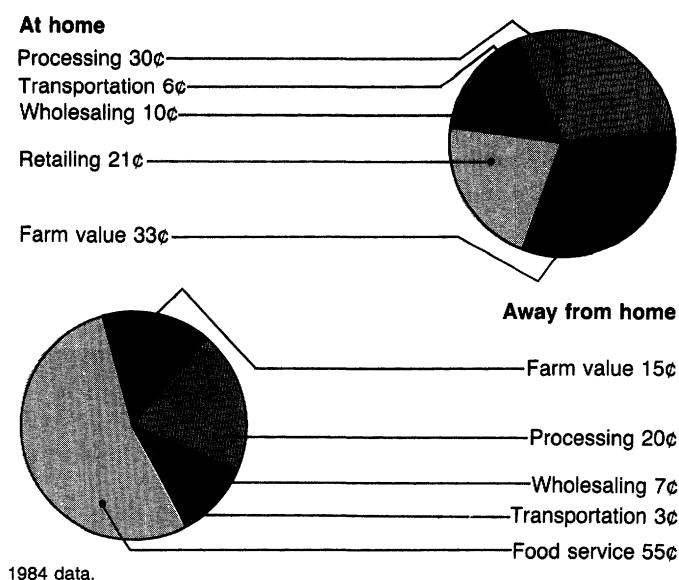
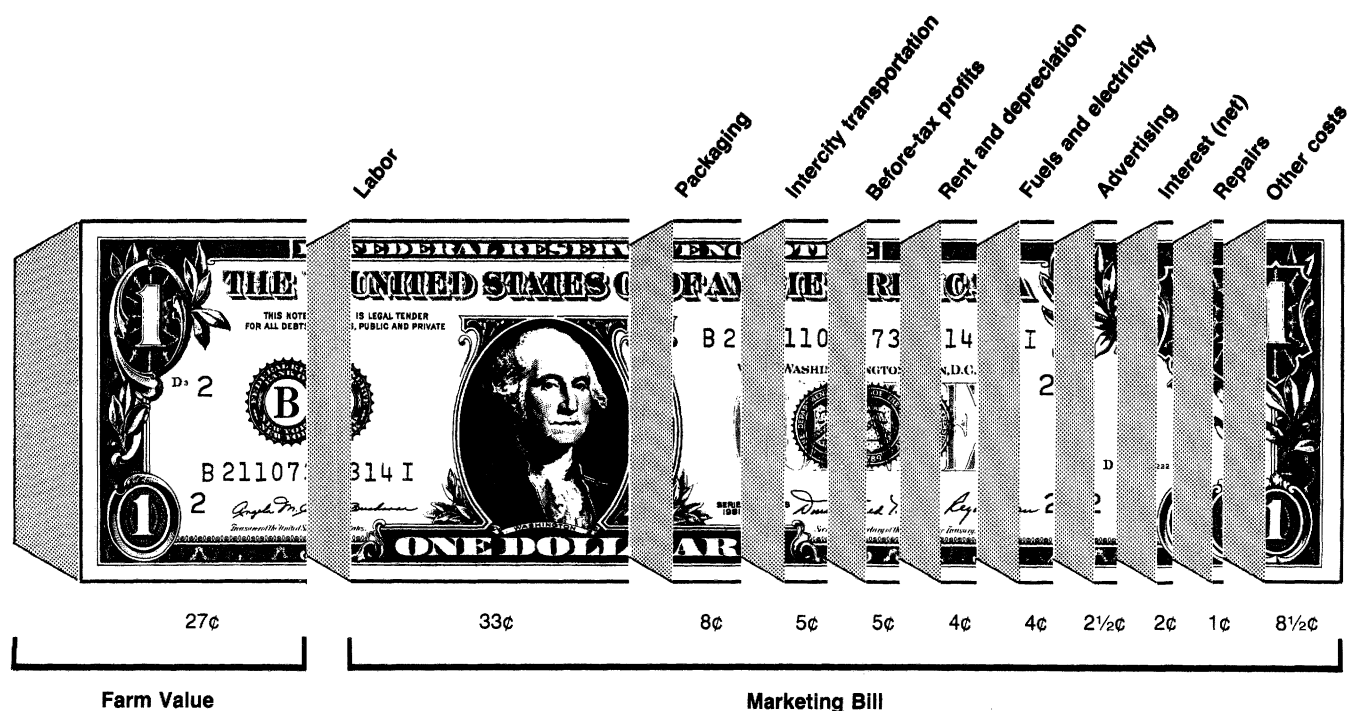


Table 15--Marketing function components of consumer expenditures

Expenditures and components	1974	1980	1981	1982	1983	1984 <u>1/</u>
<u>Billion dollars</u>						
Expenditures at foodstores	107.9	174.1	194.0	196.7	204.6	213.5
Farm value	43.1	60.2	67.0	66.8	67.5	71.2
Marketing bill	64.8	113.9	127.0	129.9	137.1	142.3
Processing cost	29.6	53.8	58.9	59.5	61.1	62.9
Intercity transportation cost	6.2	10.5	11.3	11.6	12.4	13.0
Wholesaling cost	9.5	15.7	18.1	18.7	20.1	21.1
Retailing cost	19.5	33.9	38.7	40.1	43.5	45.3
Expenditures for eating away from home	46.7	90.3	93.7	102.2	110.4	118.7
Farm value	13.3	21.5	16.2	16.9	17.4	18.3
Marketing bill	33.4	68.8	77.5	85.3	93.0	100.4
Processing cost	7.3	16.0	17.2	18.1	20.6	23.3
Intercity transportation cost	1.3	2.5	3.0	3.1	3.1	3.4
Wholesaling cost	2.6	5.0	5.8	6.4	7.5	8.6
Food service cost	22.2	45.3	51.5	57.7	61.8	65.1

1/ Preliminary. Some historical data have been revised.

Figure 8

**What a Dollar Spent on Food Paid for in 1984**

Includes food at home and away from home. Other costs include property taxes and insurance, accounting and professional services, promotion, bad debts, and many miscellaneous items.

earnings of proprietors and family workers, and tips for food service. Not included are the costs of labor engaged in for-hire transporting of foods or in manufacturing and distributing supplies used by food industries.

Labor costs rose 5.4 percent in 1984, about the same as for the previous 2 years but below the average rise during 1976-81. As in 1983, direct labor costs accounted for about 45 percent of last year's marketing bill. Labor costs rose last year because of higher hourly compensation (wages and benefits) for workers and a rise in the number of hours worked, reflecting an increase in total industry employment. The number of persons employed in the food industry rose about 3 percent in 1984, the largest 1-year increase in many years.

Over the years, the costs for employee benefits, such as health insurance, private pensions, and payroll taxes for Social Security and unemployment compensation, have increased more rapidly than hourly earnings. For last year, we estimate that these costs rose about 4 percent, whereas average hourly earnings went up less than 3 percent. Thus, benefits increased as a proportion of total labor costs.

The gain in the importance of benefits was caused in part by higher costs of private pension and insurance plans, and legally mandated hikes in payroll taxes for Social Security and unemployment compensation. In 1984, the employer's portion of the Social Security tax rate rose from 6.7 percent to 7 percent of earnings, and the maximum taxable annual earnings increased from \$35,700 to \$37,800.

Table 16--Components of the marketing bill for domestically produced farm foods

Year	Labor <u>1/</u>	Packaging materials	Intercity rail and truck transportation	Fuels and electricity	Corporate profits before taxes	Other <u>2/</u>	Total marketing bill <u>3/</u>
<u>Billion dollars</u>							
1967	25.9	7.3	4.3	--	3.4	21.5	62.4
1968	28.0	7.6	4.5	--	3.6	22.2	65.9
1969	30.4	7.9	4.6	--	3.6	21.8	68.3
1970	32.2	8.2	5.2	2.2	3.6	23.7	75.1
1971	34.5	8.5	6.0	2.4	3.9	23.2	78.5
1972	36.6	8.9	6.1	2.5	4.0	24.3	82.4
1973	39.7	9.4	6.4	2.8	5.4	23.4	87.1
1974	44.3	11.8	7.5	3.7	6.1	24.8	98.2
1975	48.3	13.3	8.4	4.6	7.1	29.7	111.4
1976	53.8	14.5	9.1	5.0	7.6	35.0	125.0
1977	58.3	15.1	9.7	5.6	7.9	36.1	132.7
1978	66.2	16.6	10.5	6.3	9.2	38.6	147.4
1979	75.2	18.6	11.8	8.0	9.9	42.7	166.2
1980	81.5	21.0	13.0	9.9	10.9	46.4	182.7
1981	91.0	22.8	14.3	11.6	12.0	52.8	204.5
1982	96.6	23.2	14.7	12.2	13.0	55.5	215.2
1983	102.5	24.4	15.5	12.7	14.8	60.2	230.1
1984	108.0	26.7	15.9	12.9	16.2	63.0	242.7

-- = Not available.

1/ Includes employee wages or salaries and their health and welfare benefits. Also includes imputed earnings of proprietors, partners, and family workers not receiving stated remuneration. 2/ Includes depreciation, rent, advertising and promotion, interest, property taxes and insurance, accounting and professional services, and many miscellaneous items. 1967-69 data also include fuels and electricity. 3/ The marketing bill is the difference between the farm value or payment to farmers for foodstuffs and consumer expenditures for these foods both at foodstores and away-from-home eating places. Thus, it covers processing, wholesaling, transportation, and retailing costs and profits. Some historical data were revised.

About 10 million workers were employed in food processing and distributing in 1984. The largest number of workers (nearly 5.2 million) were employed in away-from-home eating places. Foodstores employed 2.6 million persons, while food processors employed 1.6 million, and food wholesalers about 0.7 million workers.

The number of persons employed in the food industry has increased about 1 percent annually over the past 5 years, largely because of rising employment in foodstores and eating places. The number of workers employed in food processing slightly declined during the past 5 years.

#### Packaging Costs Up

Food containers and packaging materials, the second largest food marketing cost, totaled about \$27 billion in 1984, 8 percent of total food expenditures. Costs rose 9 percent over 1983, mainly reflecting higher wholesale prices for paperboard boxes and containers, metal containers, and plastic materials.

Paperboard boxes and containers are the largest packaging cost. The food industry spent about \$11 billion or about two-fifths of total packaging expenses on paper and paperboard products in 1984. Fiber (cardboard) boxes, the primary container used to ship nearly all processed foods, represented about one-third of this total. Sanitary food containers, including those for such products as fluid milk, margarine and butter, ice cream, and frozen food, cost almost as much. The third largest paperboard item was folding boxes used for such dry foods as cereals and perishable bakery products.

Metal containers are next in importance, making up about a fourth of total food packaging costs. Cans have probably become less important in packaging as more glass and plastic bottles and fiber containers are used.

Costs of plastic containers and wrapping materials are nearly 15 percent of food packaging costs. Plastic is an important source of trays for meat and produce, bottles for milk and fruit juices, jars and tubs for cottage cheese and other dairy products, and flexible wrapping materials, such as polyethylene film, for protective covering of baked goods, meats, and produce. Rising raw-material costs for manufacturing plastics, particularly petroleum, sharply increased prices of plastic materials in the late seventies. Prices weakened substantially in 1982 because of weak demand in nonfood markets, but prices rebounded the past 2 years.

#### Transportation Costs Advance

Intercity truck and rail transportation costs for farm foods advanced about 4 percent to \$16 billion in 1984. This was about 5 percent of retail food expenditures. Higher rates combined with larger total food marketings boosted costs.

Railroad freight rates rose by 4.5 percent in 1984, following only a 1-percent rise in 1983. The larger rise was the result of rising demand for rail services associated with the economic recovery.

Average truck rates for shipping food products also increased. For instance, truck rates for shipping fresh fruits and vegetables from the West Coast to the Northeast increased 4 to 7 percent. Operating truck costs, however, rose less than 1 percent which could have held down rates for some food shipments.

### Energy Cost Rise Slows

Fuel and electricity costs in the food industry rose at more than 1.5 times the annual rate of other costs from the beginning of the sharp rise in energy prices in 1973 to 1981. Rising about 20 percent a year, energy costs increased from 2 percent of retail food expenditures to 4 percent. However, the rise in costs slowed the past 3 years as petroleum prices have declined. Last year's energy bill came to \$13 billion, about the same as in 1983.

This energy bill counted only the costs of electricity, natural gas, and other fuels used in food processing, wholesaling, and retailing, including food service at eating places. It excluded transportation fuel costs, except for those incurred for food wholesaling.

Nearly 40 percent of the fuel and electricity costs of food marketing are in food processing. These energy expenses have risen more rapidly the past decade than for other food marketing functions because processors use a lot of natural gas, which has risen faster in price than other fuels and electricity.

Food retailing accounts for slightly over a fifth of food marketing fuel and electricity costs. Energy costs have risen in relation to other retailing costs, increasing from about 1 percent of foodstore sales in 1976 to about 1.33 percent last year. The major portion of the food retailing energy bill is electricity used to operate refrigeration equipment.

Away-from-home food service, which also requires nearly a fourth of the energy bill, has the highest energy costs per dollar of sales, averaging about 3 percent. The other 14 percent of the energy bill is used for food wholesaling, mainly in transporting food to retailers and eating places.

### Other Costs Added Up

The major costs just discussed together accounted for over two-thirds of the 1984 food marketing bill. The rest of the bill included a variety of other costs (26 percent of the total) and profits (7 percent).

Many relatively small costs were incurred in performing food processing and marketing functions. Although most such costs were small individually, they added up to \$63 billion. These costs included depreciation, rent, advertising and promotion, repairs, bad debts, contributions, property taxes and insurance, interest, and many others. We relied on data from the Internal Revenue Service and the Bureau of the Census to estimate them. Here's a rundown for 1984:

- o Plant and equipment rent and depreciation (4 percent of the total consumer expenditures).
- o Media--television, radio, and newspaper--advertising expenditures (about 2.5 percent of food expenditures).
- o Net interest (about 2 percent of expenditures).

Sufficient data are not available for estimating individual costs of food service in schools and other institutions, property taxes and insurance, for-hire local truck transportation, professional services, and communications. Together, these costs account for 8.5 percent of the food dollar.

## FOOD PRICE HIGHLIGHTS

This section reviews changes in the prices of leading food items in 1984 and explains those changes in terms of the farm value and farm to retail price spread.

Higher prices for poultry, eggs, and fresh fruits were a major cause of the rise in retail food prices in 1984. Farm value rose for most foods mainly because adverse weather reduced production of many commodities early in the year. There also were further increases in the farm to retail price spread for most foods.

### Choice Beef

After a sharp rise in beef prices from 1978 to 1980, the average annual retail price of Choice beef has been quite stable (table 17). The 1984 weighted average price of all cuts was \$2.40 per pound, 2 cents lower than the all-time high in 1982, and only 2 cents higher than in 1980. Prices varied during 1984 from a high of \$2.45 per pound in April to a low of \$2.35 in September. Prices of individual cuts ranged from about \$1.30 per pound for ground beef to \$4 per pound for porterhouse steak.

The farm value, representing the payment to the producer for the quantity of live animal equivalent to a pound of meat sold at retail, increased about twice as much as the retail price (almost 4 cents) from 1983 to 1984. The farm value averaged 58 percent of the retail price of beef in 1984, slightly higher than in 1983, but the same as in 1981 and 1982.

The farm value is computed from the average of terminal and direct market prices for Choice steers, yield grade 3, in eight markets. Computing the farm value takes two steps. Prices per pound of slaughter steers are multiplied by 2.4 pounds, the quantity of live animal required to sell 1 pound of Choice beef at retail. Then, we estimate the value of byproducts, principally the hide, obtained from the slaughtered animal. We subtract this byproduct value to obtain the farm value of the meat alone.

The farm to retail price spread for Choice beef last year was down slightly from 1983, averaging \$1 a pound. However, it varied about 11 cents during the year. When farm prices rose late in 1983 and early in 1984, retail prices did not increase as fast. Thus, the farm to retail spread was squeezed to 93 cents in January. The spread increased to \$1.04 in May when a decline in the farm value was greater than the decline in retail beef prices. Lower farm prices resulted in a further slight increase in the spread in October. For the year, the continued slow rise in marketing costs, large total meat supplies, and only moderately strong consumer demand combined to lower the farm to retail price spread by 2 cents.

Costs of the processing and marketing functions were about the same last year as in 1983 with the exception of the estimated return for the slaughtering function which declined 1.6 cents (table 18). This return included the functions performed from the time the packer purchased the cattle until the carcasses were shipped from the packing plant.

Many packers cut beef carcasses into primals, subprimals, and retail cuts, but the estimate of the return for slaughtering assumes that the beef is sold in



Table 17-Choice beef and pork: Retail price, farm value, and farm to retail price spread by year and quarter

Item	Retail price <u>1/</u>	Net carcass value <u>2/</u>	Net farm value <u>3/</u>	Farm to retail spread			Farm value share <u>6/</u>
				Total	Carcass- retail <u>4/</u>	Farm- carcass <u>5/</u>	
Choice beef:							
1980	237.6	155.4	145.0	92.6	82.2	10.4	61
1981	238.7	149.3	138.5	100.2	89.4	10.8	58
1982	242.5	150.7	140.5	102.0	91.8	10.2	58
1983	238.1	145.4	136.2	101.9	92.7	9.2	57
I	237.9	144.9	136.4	101.5	93.0	8.5	58
II	245.1	156.1	147.4	97.7	89.0	8.7	60
III	238.4	140.7	130.5	107.9	97.7	10.2	55
IV	238.4	140.7	130.7	100.4	91.1	9.3	57
1984	239.6	147.6	140.0	99.6	92.0	7.6	58
I	242.6	154.3	146.0	96.6	88.3	8.3	60
II	242.1	148.1	140.0	102.1	94.0	8.1	58
III	236.2	143.9	136.5	99.7	92.3	7.4	58
IV	237.3	144.2	137.5	99.8	93.1	6.7	58
Pork:							
1980	139.4	98.0	63.2	76.2	41.4	34.8	45
1981	152.4	106.7	70.3	82.1	45.7	36.4	46
1982	175.4	121.8	88.0	87.4	53.6	33.8	50
1983	169.8	108.9	76.5	93.3	60.9	32.4	45
I	183.0	119.3	88.1	94.9	63.6	31.3	48
II	171.1	106.9	74.7	96.4	64.2	32.2	44
III	185.0	132.7	98.4	86.6	52.3	34.3	53
IV	187.1	125.4	87.8	99.3	61.7	37.4	47
1984	162.0	110.1	77.4	84.6	51.9	32.7	48
I	161.5	108.6	75.7	85.8	52.9	32.9	47
II	159.4	109.5	77.2	82.2	49.9	32.3	48
III	164.0	115.2	81.2	82.8	48.8	34.0	50
IV	163.3	106.9	75.4	87.9	56.4	31.5	46

1/ Composite of all cuts. 2/ For quantity equivalent to 1 retail pound: beef, 1.48 pounds of carcass beef; pork, 1.06 pounds of wholesale cuts. 3/ For quantity of live animal equivalent to 1 retail pound: beef, 2.4 pounds, and pork, 1.7 pounds, minus byproduct allowance. 4/ Includes retailing, meat fabricating, wholesaling, and intracity transportation. 5/ Charges for livestock processing and transporting of meat to city where consumed. 6/ Percentage of retail price.

carcass form. The slaughtering value is obtained by deducting the farm value and estimated transportation costs for the carcass (from the packer to the city where consumed) from an average wholesale value of Choice steer carcasses (600 to 700 pounds, yield grade 3). Thus, the estimate is derived from price differences and not a compilation of costs. The decline in the slaughtering value in 1984 as well as 1983 may reflect the downward pressure on wages in the industry in recent years.

Transportation of beef from the packer to the retail marketing area amounted to 3.8 cents per retail pound in 1984. Warehousing and store delivery were estimated at 15 cents. This estimate is based on data reported in the 1977 Census of Wholesale Trade, which indicated that meat wholesaling costs represented about 7.9 percent of gross sales.

Costs of breaking the carcass into principal parts such as the loin and chuck, which could be done at the packing plant, at the wholesale level, or by the retailer, were estimated at 11.8 cents in 1984. Cutting and retail merchandising costs of Choice beef amounted to 65 cents in 1984. This amount represents the difference between the total of all other costs and the retail price.

Data for 1980-84 indicate that costs have been fairly stable the past 4 years with the exception of the decrease in slaughtering value for which there is only a partial explanation (table 18). The increasing shift to box beef may have resulted

Table 18--Choice beef and pork: Farm value, marketing costs by function, and retail price

Item	1980	1981	1982	1983	1984
<u>Cents per retail pound</u>					
Beef:					
Farm value	145.0	138.5	140.5	136.2	140.0
Slaughtering	6.8	7.0	6.8	5.4	3.8
Intercity transportation	3.7	3.8	3.8	3.8	3.8
Warehousing and store delivery	14.8	14.9	15.2	14.9	15.0
Breaking carcass	9.4	10.4	11.0	11.4	11.8
Cutting and merchandising	57.9	64.1	65.6	66.4	65.2
Retail price	237.6	238.7	242.5	238.1	239.6
Pork:					
Farm value	63.2	70.3	88.0	76.5	77.4
Slaughtering and processing	31.5	32.9	30.3	28.9	29.1
Intercity transportation	3.4	3.5	3.5	3.5	3.6
Warehousing and store delivery	8.9	9.5	11.0	10.6	10.2
Cutting and merchandising	32.5	36.2	42.6	50.3	41.7
Retail price	139.5	152.4	175.4	169.8	162.0

in a different allocation of returns between the cutting and slaughtering functions. Changes in the quality, supply and demand, and price reporting of carcass beef also may be affecting the carcass price series used in deriving the slaughtering value estimate.

### Pork

Pork consumption declined slightly in 1984, but large beef and poultry supplies created downward pressure on pork prices at the retail level. The average retail price of pork declined 8 cents from 1982 to 1983 when pork supplies increased.

The farm value increased 1 cent to 77.4 cents per retail pound equivalent in 1984. The farm value increased while the retail price declined, boosting the farm value share from 45 percent of the retail price of pork in 1983 to 48 percent in 1984.

Farm value is computed from the average price of barrows and gilts at seven Midwestern markets. This price is then multiplied by 1.7 pounds, the quantity of live animal needed to sell 1 pound of pork at retail. A value for lard and other byproducts is subtracted to obtain the net farm value. The byproduct value dropped from 6.3 cents in 1982 to 4.9 cents in 1983, but increased to 5.9 cents last year.

The farm to retail price spread for pork declined about 9 cents to 84.6 cents per pound in 1984. This decrease followed a large increase in the spread in 1983 when hog prices sharply declined. Last year, the spread increased sharply in October when hog prices were at the lowest level of the year.

Among the cost components of the farm to retail spread for pork, slaughtering and processing functions amounted to 29 cents in 1984 (table 18). Those costs include cutting the carcass into primals and processing hams, bacon, and other products. We estimated this cost by deducting the farm value and intercity transportation costs from a composite wholesale price of pork.

Transportation costs for pork between the packer and retail marketing area were 3.6 cents per pound in 1984, up slightly from the previous 3 years. Warehousing and store delivery costs were estimated at about 10 cents per retail pound in 1984. Cutting and retail merchandising costs of about 42 cents made up the largest component of the farm to retail price spread for pork.

This was 8.6 cents lower than in 1983 when this value rose about 8 cents. The retail cutting and merchandising component is derived as a residual between the total of all other functions and the retail price. The variability in this cost component may be partly explained by the time lag between changes in farm, wholesale, and retail prices.

### Broilers

Broiler prices increased at all levels early in 1984 but declined during the second half of the year (table 19). Overall, retail prices averaged 8.6 cents per pound higher, the largest increase since 1973. Margins increased at both retail and processor levels since the retail price rose more than the farm value (table 20).

A strong market developed early in the year in part because of an outbreak of avian influenza in Pennsylvania and Virginia. However, favorable prices stimulated expansion, forcing prices down by midsummer. Despite this slump, profits were earned from broiler production and processing after 3 years of losses.

Per capita consumption of young chickens reached a new high of 52.8 pounds in 1984, just above one-pound per week. This represents a gain of 5.8 pounds since 1980. Consumption rose an average of 1.5 pounds per year during the past decade. Such a gain is especially significant in light of the leveling off of total meat consumption.

All broiler producers are cutting up chicken into parts, and most are further processing chicken into fillets, nuggets, and other value-added products. Much of this further processing is done to the buyers' specifications. The processor generally realizes a more favorable margin and increased volume as

Table 19--Broilers and eggs: Farm value, marketing costs by function, and retail price

Item	Farm value	Assembly and pro- curement	Marketing functions				
			Process- ing	Intercity transpor- tation	Whole- saling	Retail- ing	Retail price
<u>Cents</u>							
Broilers, ready-to-cook, whole (pound):							
1975	37.0	1.4	7.5	1.4	3.9	12.0	63.2
1976	32.6	1.1	7.8	1.3	3.7	13.2	59.7
1977	33.0	1.1	8.0	1.4	3.7	12.9	60.1
1978	37.2	1.0	8.7	1.4	3.8	14.4	66.5
1979	35.7	1.3	9.6	1.6	4.2	15.6	68.0
1980	38.8	1.4	9.8	1.7	4.3	16.0	72.0
1981	37.6	1.6	10.3	1.7	4.3	18.2	73.7
1982	35.9	1.6	10.4	1.7	4.3	17.7	71.6
1983	38.0	1.6	10.5	1.7	4.3	16.7	72.8
1984	43.9	1.6	10.8	1.7	4.4	19.0	81.4
Eggs, Grade A large (dozen):							
1975	50.8	1.2	9.3	1.5	3.7	10.5	77.0
1976	58.0	.9	9.6	1.4	3.5	11.5	84.9
1977	53.8	.9	10.3	1.5	3.5	12.3	82.3
1978	49.7	.9	10.5	1.6	3.4	12.4	78.5
1979	53.7	1.1	11.7	1.8	3.9	13.7	85.9
1980	51.0	1.2	12.4	1.9	4.1	13.8	84.4
1981	56.1	1.2	12.2	1.9	4.1	15.1	90.6
1982	53.1	1.2	12.2	1.9	4.1	16.0	88.5
1983	65.7	1.0	12.1	1.5	3.7	18.4	102.4
1984	65.7	1.0	12.1	1.5	3.7	18.4	102.4

Table 20--Broilers and eggs: Cost components of marketing functions, 1984

Item	Farm value <u>1/</u>	Marketing functions				Retail price
		Assembly	Processing	Hauling and distributing <u>2/</u>	Retailing	
<u>Cents</u>						
Broilers (per pound):						
Labor	--	0.8	4.6	2.8	--	--
Packaging	--	--	2.4	.2	--	--
Transportation <u>3/</u>	--	--	--	--	--	--
Business taxes	--	--	.2	.2	--	--
Depreciation	--	.2	.6	.4	--	--
Rent	--	--	<u>4/</u>	.1	--	--
Repairs	--	--	.4	.2	--	--
Advertising	--	--	.3	--	--	--
Interest	--	.1	.3	.2	--	--
Energy	--	.5	1.0	1.5	--	--
Other	--	--	.6	.3	--	--
Profit	--	--	.4	.2	--	--
Total	43.9	1.6	10.8	6.1	19.0	81.4
Eggs (per dozen):						
Labor	--	.4	3.4	2.3	--	--
Packaging	--	--	5.6	.2	--	--
Transportation <u>5/</u>	--	--	--	--	--	--
Business taxes	--	--	.4	.2	--	--
Depreciation	--	.1	.6	.3	--	--
Rent	--	--	<u>4/</u>	.1	--	--
Repairs	--	--	.3	.2	--	--
Advertising	--	--	.3	--	--	--
Interest	--	.1	.4	.2	--	--
Energy	--	.4	.7	1.2	--	--
Other	--	--	.2	.2	--	--
Profit	--	--	.2	.3	--	--
Total	65.7	1.0	12.1	5.2	18.4	102.4

-- = Not estimated.

1/ Farm value for eggs includes allowance for 3-percent loss during marketing. Livestock broilers converted to retail equivalent. 2/ Includes long-distance transportation plus wholesaling and local delivery. 3/ Includes 1 cent for assembly, 1.7 cents for long-distance transportation, and 2.1 cents for local delivery, allocated to other components (such as labor and energy). 4/ Included in depreciation. 5/ Includes 0.8 cent for assembly, 1.7 cents for long-distance transportation, and 2.4 cents for local delivery, allocated to other components (such as labor and energy).

well. While most of these products are served through fast-food and other institutional outlets, considerable volumes are sold through retail stores for home consumption. These further processed products are not included in farm to retail price spread computations.

### Eggs

Grade A large egg prices averaged a record high \$1.02 at retail in 1984, 10 cents above a year earlier. February prices averaged the highest of any month at \$1.33 per dozen. Prices were record high at farm, wholesale, and retail. Farm to retail price spreads also set new records.

Two major factors caused the high prices for eggs early in 1984. Producers had finally cutback their flocks in response to an extended period of low and negative returns. The cutback was reflected in the market by rising egg prices when avian influenza broke out in Pennsylvania and Virginia flocks. The effect of the disease (which does not affect humans) and the eradication program that involved killing 12 million layers, disrupted the egg market. Buyers bid up egg prices to record levels as they feared an impending egg shortage.

However, producers responded almost as quickly as did the buyers. Producers outside the quarantined area held back hens that would normally have gone to market. So great was this response that hen numbers increased during the height of the flu and the eradication program. Increasing egg production forced egg prices down so that farm value dropped from 98 cents in January to 53 cents in June and 43 cents in October. Retail prices for grade A large eggs dropped from \$1.33 in February to 85 cents in November. These precipitous drops marked the end of an extremely volatile 2-year price fluctuation that saw farm values rise from 43 cents in January 1983 to 87 cents in December of that year, followed by the drop from 98 cents in January 1984 to 43 cents in October.

Net returns to producers selling at wholesale fluctuated even more than prices. Net returns peaked at a record 37.2 cents per dozen in January 1984. But by June, returns were negative, with producers averaging a loss of 4.6 cents per dozen eggs sold at wholesale.

Such volatility in prices and returns contributed to the increase in the marketing spread. Assembling and processing costs increased slightly, but a 2.4-cent increase in retailing made up most of the 3.1-cent increase in the farm to retail price spread, bringing the total spread to 36.7 cents.

### Fluid Milk

Retail milk prices have been essentially stable since early 1981. Despite some increases late in 1984, retail prices for a half-gallon of whole milk sold in stores averaged \$1.127, down 0.1 cent from a year earlier (table 21). Although tiny, this was the first year-to-year decline in almost 2 decades.

Processors paid 62.6 cents per half-gallon for raw milk last year, down 1.2 cents from 1983. This decline resulted from the December 1983 reduction in the support price for milk. Procurement and assembly charges were 4.4 cents, about the same as a year earlier but below the levels of the early eighties.

The lower farm value in 1984 pushed the farmer's share of the consumer's milk dollar below 52 cents, down a penny from 1983 and a nickel below the 1976 peak. The farm value of 58.2 cents includes deductions made under the Dairy and Tobacco Adjustment Act of 1983. If these deductions were excluded, the 1984 farm value would have been close to the 1980 level. Processing and wholesaling typically are performed by the same firm. The combined processing and wholesaling margin in 1984 was 33.3 cents per half-gallon, unchanged from a year earlier but 2.5 cents below 1982. Last year's small rise in processing margin was offset by lower wholesaling costs. The processor-distributor took 30 percent of the retail price in 1984, the least since 1976.

Retailing margins rose 1.1 cents per half-gallon in 1984, as declines in the prices paid to processors were not reflected in retail prices. The 16.8 cents represented 15 percent of the retail price, up from less than 10 percent in 1980.

Table 21--Fluid whole milk: Farm value, marketing costs by function, and retail price per half-gallon 1/

Year	Farm value <u>2/</u>	Marketing functions				Retail price <u>6/</u>
		Assembly and procure- ment 3/	Process- ing 4/	Whole- saling 4/	Retail- ing 5/	
		<u>Cents</u>				
1974	40.9	2.7	10.7	13.6	8.9	76.8
1975	41.2	2.8	11.4	13.6	7.9	76.9
1976	46.2	2.8	10.6	12.1	9.3	81.0
1977	45.1	2.9	13.2	12.6	8.3	82.1
1978	47.0	3.1	14.6	14.3	7.1	86.1
1979	52.2	3.8	15.1	16.6	8.3	96.0
1980	55.8	4.5	15.6	18.9	10.2	104.9
1981	59.5	4.7	16.0	19.1	12.4	111.7
1982	59.2	4.5	16.5	19.3	13.0	112.4
1983	59.5	4.3	15.8	17.5	15.7	112.8
1984	58.2	4.4	16.7	16.6	16.8	112.7

1/ Data for 1979-83 revised. 2/ Prices received by farmers are normally quoted for 3.5-percent butterfat at plant of first receipt. This price has been adjusted for transportation from farm to first plant to get the farm price, then adjusted to get the value of milk containing 3.3-percent butterfat. There are approximately 23.2 half-gallons of milk per 100 pounds. 3/ Nonfarm costs of supplying milk to processors including laboratory and onfarm field service to assure quality, pickup at farms, transportation, receiving and reloading as necessary, and management of raw milk reserves. 4/ Data for the processing and wholesaling functions represent costs for 30 fluid milk processor-distributors which are representative of moderate-size, single-plant operations throughout the country. Very small plants and plants operated by retail food chains are not included. Data are for 9 months. 5/ May include some wholesaling formerly performed by processors. 6/ Average of Bureau of Labor Statistics monthly prices.

Net returns of fluid milk processors recovered somewhat last year, even though gross margins were down slightly (table 22). These data are based on a sample of 30 processor-distributors and reflect their total operations, including production of ice cream, cottage cheese, and other products. Net margins rose 8 cents to 44 cents per 100 pounds of raw milk processed and the number of plants with negative margins fell. Even so, net returns were the second lowest since 1977.

The 1984 gross margin fell 12 cents to \$8.34 per hundredweight (cwt), the lowest since 1980. Most of the decline was early in the year when the weight of the heavy milk supplies pulled down selling prices more than farm prices.

Processors successfully trimmed 20 cents per cwt (2.4 percent) from their 1984 operating costs. During the last 2 years, the combination of modest inflation rates and continued productivity growth lowered operating costs significantly. The 1984 level of \$7.90 per cwt was the lowest since 1980.

Table 22--Net sales, costs, and margins for 30 fluid milk processor-distributors, 1981-84 1/

Item	1981	1982	1983	1984 <u>2/</u>
<u>Dollars per hundredweight <u>3/</u></u>				
Net sales receipts <u>4/</u>	26.112	26.089	25.603	24.822
Ingredient costs <u>5/</u>	17.571	17.313	17.142	16.478
Gross margin <u>6/</u>	8.541	8.773	8.461	8.344
Labor <u>7/</u>	3.676	3.767	3.713	3.503
Containers	1.676	1.732	1.695	1.716
Motor fuel	.310	.327	.305	.295
Other energy	.329	.336	.306	.332
Operating supplies	.171	.211	.230	.250
Repairs	.391	.377	.343	.330
Taxes and insurance	.185	.188	.189	.191
Depreciation	.370	.405	.410	.391
Rent and royalties	.260	.258	.235	.218
Services	.325	.309	.361	.361
Advertising	.117	.133	.146	.134
General	.196	.195	.164	.180
Total <u>6/</u>	8.005	8.237	8.096	7.901
Net margin <u>6/</u> , <u>8/</u>	.537	.537	.365	.443

1/ Reflects total operation including production of ice cream, cottage cheese, and other products. 2/ Projected on the basis of data for January-September. 3/ Of raw milk processed. 4/ Gross sales less discounts, allowances, and product returns. 5/ Includes milk, cream, ingredients for perishable manufactured products, and products for resale. 6/ May not add due to rounding. 7/ Includes fringe benefits. 8/ Before taxes.



The largest decline was in per-unit labor costs, down 21 cents per cwt. However, capital costs showed a proportional decline almost as large. These drops were partially offset by higher costs for containers, plant energy, operating supplies, and general costs.

### Fruits and Vegetables

Retail prices of fresh fruit rose about 14 percent last year reflecting small supplies of oranges and many other fruits. The farm value shot up by 43 percent while the farm to retail spread went up about 5 percent (table 3). The ratio of farm value to the retail price of fresh fruit averaged about 28 percent in 1984, the highest in many years.

For fresh vegetables, retail prices averaged 11 percent higher in 1984 than in 1983, reflecting sharp price increases early in the year. The farm value increased about 12 percent and the marketing spread for fresh vegetables rose about 10 percent in 1984.

Retail prices of processed fruit and vegetables averaged 6 percent higher in 1984, reflecting smaller supplies. The farm value went up 14 percent while the marketing spread rose about 4.5 percent. Four-fifths of the retail price of processed fruit and vegetables represents processing and distributing costs. Farm value is one-fifth, roughly the same proportion as in other recent years.

Estimates of the charges for processing and marketing functions have been made for selected fruits and vegetables (fresh potatoes, lettuce, oranges, frozen orange juice concentrate, and canned tomatoes) to explain increases in price spreads, and, therefore, retail prices over the years (table 23).

Retailing accounts for the largest share of the marketing expense for the fresh produce items (potatoes, oranges, and lettuce). For oranges, retailing expense averaged 47 percent of the farm to retail spread for the 1980 to 1984 period. The retailing share averaged 62 percent for lettuce and 71 percent for potatoes. The fact that fresh produce sales per square foot of display space are below the average for the store and that retailers experience a certain percentage of spoiling loss with fresh produce contribute to the comparatively high retailing costs. The retailing margins for frozen concentrated orange juice and canned tomatoes by comparison averaged 38 and 18 percent, respectively, of the farm to retail price spread.

Retailing, a relatively constant percent of the retail price, accounted for the largest share of the increase in the 1984 potato retail price as well as the decrease in the lettuce retail price. The greatest share of the increase in the orange retail price came at the farm level. Packing costs make up the second largest share of the marketing margin for the fresh produce items or about 20 percent of total market costs, followed by intercity transportation and wholesaling costs which account for another 20 percent.

Processing costs for canned tomatoes are over 50 percent of the farm to retail price spread. A principal component of the processing cost is packaging--the metal can, the label, and the shipping case. While transportation, wholesaling, and retailing costs continue to rise, the processing share of total costs dropped from 37 cents in 1982 to 30 cents in 1984, pushing the retail price down 2.5 cents for the same period.

Table 23--Selected fruits and vegetables: Farm value, marketing costs by function, and retail price 1/

Food item and year	Farm value <u>2/</u>	Marketing functions				Retail price <u>4/</u>
		Packing or processing	Intercity transportation <u>3/</u>	Whole- saling	Retail- ing	
<u>Cents</u>						
Potatoes, Northeast round white (10-lb. bag):						
1980	<u>5/</u> 62.3	17.3	9.3	7.1	83.4	<u>6/</u> 179.5
1981	<u>5/</u> 48.3	30.2	16.1	12.4	145.2	<u>6/</u> 252.2
1982	<u>5/</u> 47.7	19.8	10.5	8.1	95.1	<u>6/</u> 181.2
1983	<u>5/</u> 55.7	15.5	8.3	6.4	74.4	<u>6/</u> 160.2
1984	<u>5/</u> 67.8	18.2	9.7	7.5	87.6	<u>6/</u> 190.9
Oranges, Calif. (pound):						
1980	5.0	9.0	4.8	3.4	13.8	36.0
1981	7.6	7.5	4.9	4.9	14.6	39.5
1982	17.1	4.0	5.2	5.5	15.8	47.6
1983	5.3	8.6	5.2	5.9	13.7	38.7
1984	16.7	6.3	5.4	4.9	16.6	49.9
Iceberg lettuce, Calif. (pound):						
1980	<u>7/</u> 4.5	<u>8/</u> 5.6	5.3	4.9	25.4	45.7
1981	<u>7/</u> 5.9	<u>8/</u> 6.8	5.5	3.4	27.1	48.7
1982	<u>7/</u> 7.4	<u>8/</u> 7.5	5.7	5.2	30.4	56.2
1983	<u>7/</u> 5.8	<u>8/</u> 7.5	5.7	5.3	31.2	55.5
1984	<u>7/</u> 4.0	<u>8/</u> 7.5	6.0	4.1	28.8	50.4
Orange juice, frozen (12-ounce can):						
1980	36.2	12.2	3.0	13.0	23.1	<u>9/</u> 87.5
1981	41.0	23.3	3.3	12.4	22.0	<u>9/</u> 102.0
1982	46.3	18.7	3.4	13.6	24.1	<u>9/</u> 106.1
1983	44.0	20.1	3.5	13.3	23.5	<u>9/</u> 104.4
1984	47.6	34.1	3.5	13.2	23.5	<u>9/</u> 121.9
Tomatoes, Calif. (303 can):						
1980	5.0	22.7	4.4	1.9	8.2	42.2
1981	4.5	33.3	4.9	1.4	5.8	49.9
1982	4.9	37.2	5.0	1.5	6.4	55.0
1983	5.1	30.5	5.1	2.3	9.6	52.6
1984	4.9	29.6	5.2	2.4	10.4	52.5

1/ Estimates for 1980-83 revised. 2/ The farm value is the payment to farmers for the quantity of farm products equivalent to the unit sold at retail minus imputed value of byproduct. Computed from average prices received by growers.  
3/ Transportation costs are for truck shipments. 4/ Derived from Bureau of Labor Statistics monthly U.S. average retail prices and price indexes unless otherwise noted. Prices of fresh produce items were weighted by the quantities marketed.  
5/ Prices include some packing costs since many growers may grade, wash, and bag the potatoes before they are sold. 6/ Represents prices in three Eastern markets.  
7/ Farm value of lettuce is the value in the field. 8/ Contract price for cutting, packing, hauling, cooling, and selling. 9/ Estimated by Florida Citrus Commission.

The retail price of a 12-ounce can of frozen concentrated orange juice increased 17.5 cents to \$1.22 in 1984 reflecting the effects the December 1983 severe freeze had on orange juice supplies. The 1980-84 5-year average costs for retailing and processing each made up about a third of the farm to retail price spread. Retailing remained at the 33-percent level in 1984 while processing costs made up almost half the spread. Packaging represents the largest cost of processing. Automated operations have minimized the labor cost of concentrating orange juice processing. Transportation and wholesaling costs remain fairly constant. About one-fourth of the farm to retail price spread goes to wholesaling and less than a tenth to transportation. Wholesaling costs remain high because the product must be kept frozen at all times to maintain quality.

### Bread

The average retail price of white pan bread in 1984 was 54.1 cents per pound, virtually the same as in 1983 (table 24). This price is the average of monthly prices reported by the Bureau of Labor Statistics.

Table 24--White bread: Retail price, farm value of ingredients, farm to retail price spread, and farm value share of retail price per 1-pound loaf

Year	Retail price	Farm value			Farm to retail price spread	Farm value share	
		Wheat 1/	Other farm ingredients 2/	All ingredients		Wheat	All ingredients
-----Cents-----							
1970	27.7	2.6	0.8	3.4	24.3	9	12
1971	28.5	2.6	.9	3.5	25.0	9	12
1972	28.2	2.9	.9	3.8	24.4	10	13
1973	31.5	4.1	1.4	5.5	26.0	13	17
1974	39.3	5.4	2.5	7.9	31.4	14	20
1975	41.0	4.5	2.3	6.8	34.2	11	17
1976	40.2	3.8	1.7	5.5	34.7	9	14
1977	40.5	2.7	.7	3.4	37.1	7	8
1978	41.7	3.3	.7	4.0	37.7	8	10
1979	46.7	4.1	.8	4.9	41.8	9	10
1980	50.9	4.5	.8	5.3	45.6	9	10
1981	52.5	4.7	.8	5.5	47.0	9	10
1982	53.2	4.4	.6	5.0	48.2	8	9
1983	54.2	4.5	.7	5.2	49.0	8	9
1984	54.1	4.3	.8	5.1	49.0	8	9
-----Percent-----							

<sup>1/</sup> Payment to farmers for the quantity of wheat (approximately 0.86 pound) required to produce the flour for a 1-pound loaf of white bread, minus the value of millfeed byproducts. Based on average farm prices for hard winter and spring wheat in 11 States producing these wheats through 1982; all wheat prices used beginning in 1983. <sup>2/</sup> Value for lard, shortening, granulated sugar, and nonfat dry milk through 1976. Value for 1977 forward is for lard, soybean oil, high-fructose corn syrup, corn syrup, and soy-whey blend.

The farm value of wheat, at 4.3 cents, was 0.2 cent lower than in 1983. The farm value represents the payment to farmers for the quantity of wheat (approximately 0.86 pound) required to produce the flour for a 1-pound loaf of bread. The payment is computed from the average farm price for all wheat. A deduction is made for the value of millfeed which is a byproduct of milling the wheat. The value of the millfeed ranges from 15 to 20 percent of the value of the wheat, depending upon the flour milling extraction rate, the price of flour, and the price of millfeed.

Other farm-derived ingredients, including lard, soybean oil, high-fructose corn syrup, corn syrup, and soy-whey blend, contributed 0.8 cent to farm value for a total farm value of 5.1 cents. Farm value of other ingredients rose 0.1 cent in 1984 because of higher corn and soybean prices. Corn is the source of sweetener used in the bread, and soybeans are the main source of the shortening ingredient.

The major component of the retail white pan bread price is the baker-wholesale spread, the difference between the cost to the bakery of all ingredients and the wholesale price of bread (table 25). In 1983 (the latest data available),

Table 25--White pan bread: Retail and wholesale prices, cost to the baker, farm value of ingredients, and components of farm to retail price spreads, 1983

Item	Price or cost	Components of price spread
<u>Cents per pound</u>		
Retail price	54.2	--
Wholesale to retail price spread <u>1/</u>	--	8.4
Wholesale price	45.8	--
Baker to wholesale price spread <u>2/</u>	--	36.3
Cost to baker	9.5	--
Flour	6.9	--
Other farm ingredients <u>3/</u>	1.6	--
Nonfarm ingredients <u>4/</u>	1.0	1.0
Delivery of flour to baker	--	.5
Mill sales value of flour	6.4	--
Flour milling spread	--	1.1
Cost of wheat to miller <u>5/</u>	5.3	--
Delivery of wheat, farm to flour mill	--	1.0
Marketing costs for other farm ingredients <u>6/</u>	--	.8
Farm value	5.1	--
Wheat <u>5/</u>	4.3	--
Other farm ingredients	.8	--

-- = Not applicable.

1/ Difference between retail and wholesale price of bread. 2/ Difference between wholesale price and cost of bread ingredients to the bakery. 3/ Includes lard, soybean oil, high-fructose corn syrup, corn syrup, and soy-whey blend. 4/ Cost to baker of yeast, yeast food, salt, and other nonfarm ingredients. 5/ Excludes value of millfeeds. 6/ Difference between the cost to the baker of other farm ingredients and farm value.

the baker-wholesale spread was 36.3 cents per loaf, or nearly two-thirds of the retail price. The cost of ingredients to the baker was 9.5 cents. This cost consisted of flour, other farm ingredients, and nonfarm ingredients.

The 45.8-cent wholesale price of bread is a weighted average of four regional prices. The regional prices consisted of Bureau of Labor Statistics benchmark prices for 2 months of the year extrapolated for other months of the year by producer price indices for bread. Wholesale prices include quotes for private label and regionally advertised bread that is sold on a free on board (f.o.b.) basis at the bakery or is drop-delivered by the bakery. Consequently, the spread between the baker's cost of all ingredients and the wholesale price of bread represents the costs of baking and packaging bread, as well as some selling, transportation, and distribution costs. The remaining costs of transportation and wholesale distribution to retail stores are included in the wholesale to retail price spread of 8.4 cents along with the retail store margin.

Other cost components of the farm to retail spread are relatively small individually. These costs include transporting and handling wheat from farms to flour mills, milling of wheat, processing and marketing costs of other farm ingredients, transportation costs of flour from mills to bakers, and the cost of nonfarm ingredients used in bread.

#### Sugar

Because of the stability provided by the price support program for sugar, retail sugar prices, together with the farm value and price spreads, changed very little in crop year 1983/84. The domestic raw sugar price, which is the basis for pricing all domestic sugar, increased less than 0.5 percent during crop year 1983/84.

The 1983/84 farm value of a pound of sugar was 14 cents, up about 0.5 cent from a year earlier (table 26). The farm value is based on the season average prices received by growers in the 49 continental United States for sugarcane and sugar beets. In 1983/84, the farm value accounted for 40 percent of the retail price of sugar, up 3 percentage points from the previous year.

The farm to retail price spread was 21 cents in 1983/84, unchanged from 1982/83. The processing and refining component of the spread amounted to about 17 cents, virtually unchanged from the previous year. This spread is the difference between the farm value and an average quoted wholesale price for sugar packed in 5-pound bags, adjusted down for discounts and allowances to obtain an effective wholesale price. This spread covers all the functions of transporting sugarcane and sugar beets to processing plants, processing sugarcane and refining raw cane sugar, processing sugar beets, and selling sugar to buyers, including intercity transportation charges.

The wholesaling and retailing spread in 1983/84 was estimated to be about 4 cents per pound, unchanged from the previous year. This spread is the difference between the average retail price and the adjusted average quoted wholesale price for sugar.

Table 26--Sugar: Farm value, price spreads, and retail price

Item	Crop year beginning October				
	1979/80	1980/81	1981/82	1982/83	1983/84
	<u>Cents per pound</u>				
Farm value <u>1/</u>	12.9	17.3	12.2	13.8	14.3
Processing and refining spread <u>2/</u>	19.7	18.4	14.8	16.9	16.8
Wholesaling and retailing spread <u>3/</u>	2.2	7.9	5.7	4.2	4.2
Retail price <u>4/</u>	34.8	43.6	32.7	34.9	35.3

1/ Based on season average prices received by continental U.S. sugar producers for sugarcane in Louisiana and Florida, and for all sugar beets. 2/ Difference between the farm value and an average of quoted wholesale prices adjusted for discounts and allowances. 3/ Difference between the retail price and the wholesale price, adjusted for discounts and allowances. 4/ Average of Bureau of Labor Statistics' monthly retail prices for sugar sold in 33- to 80-ounce packages.

## **Other Reports of Interest**

**Farmers' Guide to Trading Agricultural Commodity Options**, by David E. Kenyon. AIB-463. April 1984. 24 pp. \$1.50. Order SN: 001-019-00331-6.

This manual explains the concept of options, the terminology of option contracts, and the factors influencing option prices. It includes examples to show the comparative advantages, disadvantages, and profitability of options versus futures and how farmers' expectations of crop yields will affect their hedging strategies.

**The Africanized Honey Bee in the United States: What Will Happen to the U.S. Beekeeping Industry?** by Robert McDowell. AER-519. November 1984. 33 pp. \$2.25. Order SN: 001-019-00360-0.

The U.S. beekeeping industry may experience annual losses of \$26 million to \$58 million if the Africanized honey bee (AHB) colonizes the area that has at least 240 frost-free days a year, losses could range from \$49 million to \$58 million annually, depending on the behavior of the bee. If the AHB colonizes the area south of latitude 32° North, the economic losses could range from \$26 million to \$31 million annually, depending on the behavior of the AHB. Every aspect of beekeeping—honey and beeswax production, queen and package bee production, pollination, and migratory beekeeping—could be adversely affected.

**U.S. Beef Cow-Calf Industry**, by Henry C. Gilliam, Jr. AER-515. September 1984. 72 pp. \$2.75. Order SN: 001-019-00352-9.

This comprehensive look at the U.S. beef cow-calf production industry finds that the number of beef cows fell by about one-fifth between 1975 and 1980 in response to sharp reductions in feeder cattle prices and increases in production costs during the midseventies. Photos and charts illustrate the text.

**U.S. Hog Industry**, by Roy N. Van Arsdall and Kenneth E. Nelson. AER-511. June 1984. 116 pp. \$4.50. Order SN: 001-000-04408-7.

The hog industry has moved rapidly in the last 30 years from barnyard sideline to mechanized million-dollar operations. This report describes the most prevalent practices used today. Includes confinement production facilities, breeding, feeding regimens, waste management, and more. Charts, photos, and 54 detailed appendix tables.

**1984 Handbook of Agricultural Charts**. AH-637. December 1984. 92 pp. \$3.75. Order SN: 001-019-00368-5.

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